Yahoo Group Archive: RTrak

These Yahoo Groups messages were archived in WARC format by ArchiveTeam in 2018. This PDF was generated by Digital Library of Amateur Radio & Communications from the WARC files in 2026.

Date span: 2007-09-25 through 2014-04-11

Source WARC: rtrak.aR0eoQm.warc.gz

Source item: https://archive.org/details/yahoo-groups-2018-04-22T05-58-27Z-a100e1

Messages included in this PDF: 475

Yahoo replaced the domain portions of email addresses with @... in the archived messages. Characters lost in Yahoo's archived text appear as ?.

Messages are presented in ascending Yahoo message-ID order. Gaps indicate records absent from the source WARC or messages omitted from this PDF as spam.

1. Welcome to the Group!

Yahoo group: RTrak
Date: 2007-09-25 22:12:05 UTC
From: Jason
Topic: 1 Message: 1

Welcome to the RTrak group. Please feel free to post questions about it and make comments and suggestions. We strive to make it a better product with you input. We will also use this group to make periodic updates to everyone as well as important announcements, such as when it will be available for purchase.

We are currently compiling a potential buyer count to determine the size of our first run, so please let us know if you are interested and we will include you on that list.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

2. Couple of questions

Yahoo group: RTrak
Date: 2007-09-25 22:20:26 UTC
From: John Hall
Topic: 2 Message: 2

```
1) Power Output? (assumming its the SRB with 1/2W output)
2) Possibility of adding power amp module to boost to 10W?
3) Any pricing information yet?
4) Able to get without case?

Looking at up to 30 of these for use on a bike ride.

John
n5jrh
```

3. Re: Couple of questions

Yahoo group: RTrak
Date: 2007-09-26 04:10:42 UTC
From: Jason
Topic: 2 Message: 3

--- In rtrak@yahoogroups.com, "John Hall" <jorobhall@...> wrote:
>

Hi John,

> 1) Power Output? (assumming its the SRB with 1/2W output)

500mW. We have been doing some testing into a 5/8 wave whip and have seen great results with moderately to well digi coverage.

> 2) Possibility of adding power amp module to boost to 10W?

Not likely from RPC. We don't typically like the idea of a "deaf" tracker with more power than about 1 watt. This does not keep you from adding on an external amp yourself.

> 3) Any pricing information yet?

Preliminary pricing is $225-240

> 4) Able to get without case?

Yes, most likely, the full price minus $15.

>
> Looking at up to 30 of these for use on a bike ride.

Great! I have you added to my list.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

4. Re: [rtrak] Re: Couple of questions

Yahoo group: RTrak
Date: 2007-09-26 05:14:13 UTC
From: Facility 406
Topic: 2 Message: 4

"This does not keep you from adding on an external amp yourself."

Any chance of making one available? I imagine many people want them for more than a tracker.

"Preliminary pricing is $225-240"

How about the SRBMX146 itself? I don't need a complete unit with GPS at this time, but have had a need for a low power TX and manually configured OT1 for quite some time.

Kurt

5. Re: [rtrak] Re: Couple of questions

Yahoo group: RTrak
Date: 2007-09-26 11:15:07 UTC
From: Jason kg4wsv
Topic: 2 Message: 5

On Sep 26, 2007, at 12:14 AM, Facility 406 wrote:

> How about the SRBMX146 itself?

Yeah, I second the question. Looks like a great candidate for a
little Atmel to make a DF beacon.

-j
kg4wsv

6. Re: [rtrak] Re: Couple of questions

Yahoo group: RTrak
Date: 2007-09-26 12:19:06 UTC
From: Jason Rausch
Topic: 2 Message: 6

--- Facility 406 <facility_406@...> wrote:

> How about the SRBMX146 itself? I don't need a
> complete unit with GPS at
> this time, but have had a need for a low power TX
> and manually configured
> OT1 for quite some time.

Yes, I am an SRB dealer and I will have the MX-146 for sale by it'self. SRB has not settled on a suggested price yet, so I can't say what they will sell for, just yet. I have an updated user's manual to upload to the site for the transmitter. If you go to the homepage and click on the "RF" link, you will find a picture and link to the manual. The current manual is slightly dated. I will try to get the updated manual posted today.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

7. Add me to you list

Yahoo group: RTrak
Date: 2007-09-26 14:08:54 UTC
From: vk2asy
Topic: 7 Message: 7

Hi Jason,
I have been watching with interest for a couple of weeks on the other group, your new development looks very interesting, and certainly lends itself to some of the applications I am currently persuing..
Well done..

Kim

8. await with interest

Yahoo group: RTrak
Date: 2007-09-26 19:28:07 UTC
From: trevorhardisty
Topic: 8 Message: 8

Hi, I have been following the opentracker forum with interest till I stopped your new unit, love the idea and concept, no seperate radio, cables, the all in one is great. Now await the price.

Trevor ZL1UTH

9. Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-09-26 21:52:48 UTC
From: Jason
Topic: 9 Message: 9

I have created a poll to find out what everyone's primary use would be for the RTrak. If you choose other, feel free to post a message and tell us what your use is. I have already had some interesting ideas come my way.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

10. Interest in RTRAK

Yahoo group: RTrak
Date: 2007-09-26 21:59:22 UTC
From: vk4tec
Topic: 10 Message: 10

Gudday

I have received some emails showing interest in RTRAK.

I have been playing with a GMSK 434 MHz unit.

http://tech-software.net/

How big is tha RTRAK board ?

I would be interested in a non-GPS option.

Can you give us a pricing option breakdown ?

When do you anticipate delivery ?

There seems to be a market for lower powered APRS devices.

Andrew Rich VK4TEC - Australia.

11. Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-09-26 22:14:38 UTC
From: John Hall
Topic: 9 Message: 11

I think you poll settings in the group is set to moderators only, as I cannot see the polls link in this group.

John N5JRH

--- In rtrak@yahoogroups.com, "Jason" <lists@...> wrote:
>
> I have created a poll to find out what everyone's primary use would
> be for the RTrak. If you choose other, feel free to post a message
> and tell us what your use is. I have already had some interesting
> ideas come my way.
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> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>

12. Re: [rtrak] Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-09-26 23:55:05 UTC
From: Jason Rausch
Topic: 9 Message: 12

John, Yep, you're right! Sorry about that everyone.
Should be fixed now.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- John Hall <jorobhall@...> wrote:

> I think you poll settings in the group is set to
> moderators only, as I
> cannot see the polls link in this group.
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> --- In rtrak@yahoogroups.com, "Jason" <lists@...>
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> > Thanks!
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>
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13. Re: [rtrak] Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-09-27 01:48:39 UTC
From: Facility 406
Topic: 9 Message: 13

Question

How would you use your RTrak?

Other

Remote monitoring of sewage storage and distribution sites. Don't need the whole unit so much as just a manually configured OT and low power TX.

Kurt

14. Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-09-27 12:01:25 UTC
From: Jason
Topic: 9 Message: 14

Kurt, this sounds neat. Are you going to use the onboard ADC's to collect the data? Kind of like a simplfied MOSCAD (in Motorola terms), better known as SCADA.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In rtrak@yahoogroups.com, "Facility 406" <facility_406@...> wrote:
>
> Question
>
> How would you use your RTrak?
>
> Other
>
> Remote monitoring of sewage storage and distribution sites. Don't need the
> whole unit so much as just a manually configured OT and low power TX.
>
> Kurt
>

15. See you at DCC!

Yahoo group: RTrak
Date: 2007-09-27 12:03:43 UTC
From: Jason
Topic: 15 Message: 15

We're heading up to Hartford, CT. this morning to attend the TAPR Digital Communications Conference this weekend. Hope to see all of you there! We will have a little demo set up in the demo room near Argent Data Systems (OpenTracker) and HamHUD Nichtronix.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

16. RE: [rtrak] See you at DCC!

Yahoo group: RTrak
Date: 2007-09-27 12:05:15 UTC
From: Andrew Rich
Topic: 15 Message: 16

Take some photos for us down under will ya

Andrew Rich VK4TEC
vk4tec@...
http://www.tech-software.net

-----Original Message-----
From: rtrak@yahoogroups.com [mailto:rtrak@yahoogroups.com]On Behalf Of
Jason
Sent: Thursday, 27 September 2007 10:04 PM
To: rtrak@yahoogroups.com
Subject: [rtrak] See you at DCC!

We're heading up to Hartford, CT. this morning to attend the TAPR
Digital Communications Conference this weekend. Hope to see all of
you there! We will have a little demo set up in the demo room near
Argent Data Systems (OpenTracker) and HamHUD Nichtronix.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

17. Re: [rtrak] Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-10-02 00:22:17 UTC
From: Facility 406
Topic: 9 Message: 17

"Are you going to use the onboard ADC's to collect the data?"

I hadn't thought much about it, my main interest in this project is to monitor temperature and over-flow which I can do with remoting the OT temperature sensor and using a switch closure. There isn't a whole lot to keep track of in a a tank of sewage...

Kurt

18. Re: [rtrak] Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-10-04 20:30:48 UTC
From: Curt, WE7U
Topic: 9 Message: 18

On Mon, 1 Oct 2007, Facility 406 wrote:

> "Are you going to use the onboard ADC's to collect the data?"
>
> I hadn't thought much about it, my main interest in this project is to
> monitor temperature and over-flow which I can do with remoting the OT
> temperature sensor and using a switch closure. There isn't a whole lot to
> keep track of in a a tank of sewage...

Methane levels? Might help keep people alive that work in the area.

--
Curt, WE7U: <www.eskimo.com/~archer/> XASTIR: <www.xastir.org>
"Lotto: A tax on people who are bad at math." -- unknown
"Windows: Microsoft's tax on computer illiterates." -- WE7U
The world DOES revolve around me: I picked the coordinate system!

19. Re: [rtrak] Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-10-04 23:28:51 UTC
From: Facility 406
Topic: 9 Message: 19

: Methane levels? Might help keep people alive that work in the area.

That's a VERY good idea as two areas are somewhat enclosed. There are about ten vents on the main building, but due to the gasses cooling in the winter and coming into windows and foundation vents, there is a design in the works for a 40 - 50 foot tower to draw the gasses about 300' away from the main storage tank, about 400' from the nearest area used by people, this would also create a low pressure area in the two enclosed areas. The pipe on the tower would be painted black to help create a convection current to draw the gasses away from the buildings, the vents would then be replaced with a large lateral pipe under the roof with grilles to the outside at the east and west ends, these would always be under a slight vacuum.

Kurt

20. Re: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-10-06 21:17:34 UTC
From: Cliff Boand
Topic: 20 Message: 20

I'd just use mine in whatever car I'm in, for starters. I just finished a 2-week road trip with my wife, and just as I was installing my current mess-of-wires, boxes, battery, and radio APRS setup into her car, I hooked up the transceiver REVERSED-POLARITY!! Ouch! Fuse, diode gone in a flash (literally), time to go, pulled the tracker, no beaconing for 2 weeks. (Sigh!) Connect the power, antenna...sounds like what I NEED!

22. RTrak Component Specs and Features Update

Yahoo group: RTrak
Date: 2007-10-12 21:23:03 UTC
From: Jason
Topic: 22 Message: 22

So far, I have received many emails from people asking for the specs and features of the RTrak. I am going to post some specs here to have a consolidated reference.

SRB MX-146 2 Meter (VHF) Transmitter

- 144-148 MHz Frequency Range
- 500 mW at 50 Ohms
- Standby Current <1 mA
- Transmit Current 300 mA
- 2.5 kHz Spacing
- Dual Injection Modulation
- Modulation Bandwidth >20 kHz
- Modulation Sensitivity ~500mVp-p
- Spurious Suppression 80dB
- Harmonic Suppression 45dB
- Frequency Stability +/- 5ppm

Trimble Copernicus GPS Receiver

- 12 Channel Receiver
- Supports Altitude over 60,000 Feet
- Cold Start Time ~39 Seconds
- Run Current 32 mA @ 3.3VDC
- Sensitivity Acq. -142 dBm
- Sense Tracking -150 dBm
- Reacq Time 1 Seconds
- Ripple Noise Max 50mVp-p 1Hz-1MHz
- Accurracy Horizontal <2.5m @ 50%
- Accurracy Altitude <5m @ 50%
- Accurracy Velocity 0.06 m/sec

RTrak Feature Updates

- Up until now, frequency control has been done through a four bit binary switch. This allows the user to select from a list of preset 16 frequencies. I am working with Scott of Argent Data to interface the SPI bus of the MX-146 to the OT1+ to control frequency on the fly. This would allow the end user to program any frequency in the allowed range through the OT1+ config software. This includes the ability to change frequency on a profile switch. If we are able to add frequency control and programming through the OT1+, the binary switch will most likely be removed from the design.

- We have also tied the 1PPS (Pulse Per Second) signal from the GPS to the IRQ line of the OT1+. This allows for a very precise timing

scheme when using timeslotting. Timeslotting is very useful for events that use multiple trackers, that are unable to received, at one time. They are all timed to transmit as a specific interval, at the same time reducing the chance of one tracker transmitting over another.

Some final design changes and techincal considerations are being made right now to produce the final version, that will become the market version. We are still open to suggestions if anyone has any.

Questions to the group:

1. Would including some kind of mini mag mount 2 meter antenna in the package be an incentive or just extra? We would like to see how many people already have antenna plans and would not need it.

2. Would you be willing to pre-order your RTrak(s) for the first run?

3. What would you acceptable wait time be for delivery from time of placing your order?

4. Is three months be too long to wait?

Thanks to everyone who is keeping up with this new product and please feel free to send us questions either on the group or to our sales@rpc-electronics.com email.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

23. RE: [rtrak] RTrak Component Specs and Features Update

Yahoo group: RTrak
Date: 2007-10-12 22:08:07 UTC
From: Andrew Rich
Topic: 22 Message: 23

1. No to concerned about antennae - most people work that part out.

Add it as an option to buy seperately.

2. Pre-order .. as long as you specify exactly what you will get in the end

3. Wait time .. people are impatient and want stuff yesterday

4. Why 3 months ?

Andrew Rich VK4TEC
vk4tec@...
http://www.tech-software.net

-----Original Message-----
From: rtrak@yahoogroups.com [mailto:rtrak@yahoogroups.com]On Behalf Of
Jason
Sent: Saturday, 13 October 2007 7:23 AM
To: rtrak@yahoogroups.com
Subject: [rtrak] RTrak Component Specs and Features Update

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Some final design changes and techincal considerations are being made right now to produce the final version, that will become the market version. We are still open to suggestions if anyone has any.

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2. Would you be willing to pre-order your RTrak(s) for the first run?

3. What would you acceptable wait time be for delivery from time of placing your order?

4. Is three months be too long to wait?

Thanks to everyone who is keeping up with this new product and please feel free to send us questions either on the group or to our sales@... email.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

24. Re: RTrak Component Specs and Features Update

Yahoo group: RTrak
Date: 2007-10-13 05:13:55 UTC
From: andre_k6ah
Topic: 22 Message: 24

1. Would including some kind of mini mag mount 2 meter antenna in the package be an incentive or just extra? We would like to see how many people already have antenna plans and would not need it.

Not interested in an antenna.

2. Would you be willing to pre-order your RTrak(s) for the first run?

Perhaps if there was an introductory price... to offset the risk of buying before reviews come out on the product.

3. What would you acceptable wait time be for delivery from time of placing your order?

I'd say a.s.a.p. Although if you're asking these questions, then the product design isn't frozen yet. Sounds like it'll bee a while. Too bad.

4. Is three months be too long to wait?

Get the product to market as already described. Don't add additional requirements to a product that already has a market waiting.

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> sales@... email.
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> Thanks!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>

25. Re: RTrak Component Specs and Features Update

Yahoo group: RTrak
Date: 2007-10-13 14:18:58 UTC
From: Jason
Topic: 22 Message: 25

--- In rtrak@yahoogroups.com, "andre_k6ah" <k6ah@...> wrote:

> Not interested in an antenna.

OK, I am hearing this through here and personal emails. Looks like the antenna will be offered as an option.

> Perhaps if there was an introductory price... to offset the risk of
> buying before reviews come out on the product.

We are working out the price details and we want to make sure that the price we state is going to be correct. As soon as we have a final price, this group will be the first to know. We will also post it on our website.

> I'd say a.s.a.p. Although if you're asking these questions, then
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> product design isn't frozen yet. Sounds like it'll bee a while.
Too
> bad.

We plan to have it available ASAP as well, but I just want to see what kind of acceptable lead time we have for assembly. As far as design goes, we have made a few minor board changes and I have proto boards on the way to to build and test. If all goes well with that revision, we will be ready to offer to the market. I want to be very careful that the end product is error free.

The fact that I mentioned 3 months is a worst case scenario. We will ship as soon as we can, following the inital orders placed.

> Get the product to market as already described. Don't add
additional
> requirements to a product that already has a market waiting.

Well said and I appreciate the honestly. The only real feature being added is the frequency control. This is really a must so the end user can freely program the transmitter to the frequency they would like.

Thank you for the feedback!

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

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> > right now to produce the final version, that will become the
market
> > version. We are still open to suggestions if anyone has any.
> >
> > Questions to the group:
> >
> > 1. Would including some kind of mini mag mount 2 meter antenna in
> the
> > package be an incentive or just extra? We would like to see how
> many
> > people already have antenna plans and would not need it.
> >
> > 2. Would you be willing to pre-order your RTrak(s) for the first
> run?
> >
> > 3. What would you acceptable wait time be for delivery from time
of
> > placing your order?
> >
> > 4. Is three months be too long to wait?
> >
> > Thanks to everyone who is keeping up with this new product and
> please
> > feel free to send us questions either on the group or to our
> > sales@ email.
> >
> > Thanks!
> > Jason KE4NYV
> > RPC Electronics
> > www.rpc-electronics.com
> >

>

26. Re: [rtrak] RTrak Component Specs and Features Update

Yahoo group: RTrak
Date: 2007-10-15 02:30:26 UTC
From: Tapio Sokura
Topic: 22 Message: 26

Jason wrote:
> 1. Would including some kind of mini mag mount 2 meter antenna in the
> package be an incentive or just extra? We would like to see how many
> people already have antenna plans and would not need it.

Quarter wave minimags usually have relatively bad performance on 2m. With minimags I mean mounts that have a diameter of about an inch. The reason for that is the bad capacitive connection to the car roof, which is not enough on 2m. On 70cm the "mini mag" ground is usually good enough. So I'd suggest not bundling, or at least not making the 2m minimag a mandatory part of the kit.

Tapio

27. Cost and avilability

Yahoo group: RTrak
Date: 2007-10-30 16:07:01 UTC
From: mhacker_arg
Topic: 27 Message: 27

Hi,

I'm new here and don't know if this just was asked before, but HOW MUCH it's going to cost? and WHEN it's supposed to be ready to be sold?

TIA

Marcelo

30. Re: Cost and avilability

Yahoo group: RTrak
Date: 2007-10-31 12:14:26 UTC
From: Jason
Topic: 27 Message: 30

Marcelo, we are working out some details. We're also working on a multi-frequency control scheme that I will explain in the comming weeks. I think the improvments we are making will be worth the wait.

Please keep watching for futher updates.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In rtrak@yahoogroups.com, "mhacker_arg" <hacker@...> wrote:
>
> Hi,
>
> I'm new here and don't know if this just was asked before, but HOW MUCH
> it's going to cost? and WHEN it's supposed to be ready to be sold?
>
> TIA
>
> Marcelo
>

31. RTrak Update

Yahoo group: RTrak
Date: 2007-11-18 01:04:14 UTC
From: Jason
Topic: 31 Message: 31

Please check the "Photos" section of the group. There is a new folder called "RTrak V 1.6" and it contains pictures of the latest RTrak board, including the first case that I hand milled for testing. Be gentle, that milling was done with a hand drill and it was a bit off. The milled end plates will be done by a professional shop and will fit just right.

This version contains a not-yet available, enhanced version of the SMT OpenTracker 1+. This version is 28 pins and contains SPI lines to control the MX-146 transmitter. Scott had the foresight to "add" the additonal pins to the bottom of the pin rows, on the module, allowing for the original 24 pin module to still be used. All RTraks will ship with this new 28 pin version.

You will also see a 16 position HEX rotary switch in the top right corner of the board. This will be used for frequency selection. The proposed method is to have a frequency table in the OpenTracker config software that can hold up to eight frequencies. Any of these eight will be selectable by choosing between positions 0 and 8. This will be used for single frequency beaconing. When selecting positions 9 through F, you can select one of the first eight, as well as a pre-determined secondary frequency for dual frequency beaconing. Using this method will allow you to switch between these two modes easily, without the need of a computer to change. Please, share your comments on this.

Last, there is a 5th picture in the folder that shows a Pelican case that has been "plucked" to hold a RTrak, GPS antenna, power cable and programming cable. I would like to hear if there is any interest in these cases. If there is enough demand, I will offer these as an extra accessory to the RTrak package, pre "plucked" of course!

Now, to answer the main question! "How much is it?" We have settled on a price of $250 per unit. This will include, the RTrak (with case), GPS patch antenna, lighter power cable, programming cable and manual. After much comparison with other similar devices and number crunching, this is the price that we have decided on. We compared mostly with the frequency agile MicroTrak, which is $220. The MicroTrak is nice, but it does not include a built-in GPS, case, cables or even the DB9 to connect a GPS. We feel that with our price, you are getting much more for the dollar.

Comments? Suggestions? Complaints?

Thank you very much for all of the input on and off of this SIG!

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

32. Re: [rtrak] RTrak Update

Yahoo group: RTrak
Date: 2007-11-18 01:21:36 UTC
From: Jason KG4WSV
Topic: 31 Message: 32

How does the GPS behave above 60k' (or 20km or whatever the altitude is where most of 'em go stupid)?

-Jason
kg4wsv

33. Re: [rtrak] RTrak Update

Yahoo group: RTrak
Date: 2007-11-18 01:41:18 UTC
From: Jason Rausch
Topic: 31 Message: 33

--- Jason KG4WSV <kg4wsv@...> wrote:

> How does the GPS behave above 60k' (or 20km or
> whatever the altitude
> is where most of 'em go stupid)?

The Copernicus module manual is very vauge, but
according to Trimble, it's good over 60K.

I would love to get one on a balloon to test this and
verify it!

That brings up another point. I might offer the RTrak
without a case for the high alt. guys. Reduce weight
and price by about $10 a unit. All depends on demand.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

34. Re: RTrak Update

Yahoo group: RTrak
Date: 2007-11-18 01:59:29 UTC
From: vk1nut
Topic: 31 Message: 34

1. The 8 pos rotary switch is a good idea, access from the outside through a hole with a screen print giving indication of the 8 positions could be handy.This means there would not be any need to open the case to change frequencies.
2. Are the frequencies going to be fully defined by the user (user can define any freq within the hardware limits of the Transceiver?) Or is it going to be limited to what frequencies are hard coded? If they are hard coded, what will be the frequencies?

Thanks
Glenn -vk1nut

--- In rtrak@yahoogroups.com, "Jason" <lists@...> wrote:
>
> Please check the "Photos" section of the group. There is a new
> folder called "RTrak V 1.6" and it contains pictures of the latest
> RTrak board, including the first case that I hand milled for
> testing. Be gentle, that milling was done with a hand drill and
it
> was a bit off. The milled end plates will be done by a
professional
> shop and will fit just right.
>
> This version contains a not-yet available, enhanced version of the
> SMT OpenTracker 1+. This version is 28 pins and contains SPI
lines
> to control the MX-146 transmitter. Scott had the foresight
to "add"
> the additonal pins to the bottom of the pin rows, on the module,
> allowing for the original 24 pin module to still be used. All
RTraks
> will ship with this new 28 pin version.
>
> You will also see a 16 position HEX rotary switch in the top right
> corner of the board. This will be used for frequency selection.
The
> proposed method is to have a frequency table in the OpenTracker
> config software that can hold up to eight frequencies. Any of
these
> eight will be selectable by choosing between positions 0 and 8.
This
> will be used for single frequency beaconing. When selecting
> positions 9 through F, you can select one of the first eight, as
well
> as a pre-determined secondary frequency for dual frequency

> beaconing. Using this method will allow you to switch between
these
> two modes easily, without the need of a computer to change.
Please,
> share your comments on this.
>
> Last, there is a 5th picture in the folder that shows a Pelican
case
> that has been "plucked" to hold a RTrak, GPS antenna, power cable
and
> programming cable. I would like to hear if there is any interest
in
> these cases. If there is enough demand, I will offer these as an
> extra accessory to the RTrak package, pre "plucked" of course!
>
> Now, to answer the main question! "How much is it?" We have
settled
> on a price of $250 per unit. This will include, the RTrak (with
> case), GPS patch antenna, lighter power cable, programming cable
and
> manual. After much comparison with other similar devices and
number
> crunching, this is the price that we have decided on. We compared
> mostly with the frequency agile MicroTrak, which is $220. The
> MicroTrak is nice, but it does not include a built-in GPS, case,
> cables or even the DB9 to connect a GPS. We feel that with our
> price, you are getting much more for the dollar.
>
> Comments? Suggestions? Complaints?
>
> Thank you very much for all of the input on and off of this SIG!
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>

35. Re: [rtrak] Re: RTrak Update

Yahoo group: RTrak
Date: 2007-11-18 02:09:16 UTC
From: Jason Rausch
Topic: 31 Message: 35

--- vk1nut <vk1nut@...> wrote:

>
> 1. The 8 pos rotary switch is a good idea, access
> from the outside
> through a hole with a screen print giving indication
> of the 8
> positions could be handy.This means there would not
> be any need to
> open the case to change frequencies.

This is one concern and it kind of goes against my
original design concept. Obviously, the unit is no
way water proof, but it could be semi-weatherproof
with as little holes as possible. That is the main
reason I did not want to add any other holes to the
case.

> 2. Are the frequencies going to be fully defined by
> the user (user
> can define any freq within the hardware limits of
> the Transceiver?)

The frequencies will be fully defined by the end user.
The plan is to have an 8 row table in the config
software. This is where the user can type in any 8
frequencies, that fall within the transmitter's range.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

36. Re: RTrak Update

Yahoo group: RTrak
Date: 2007-11-18 07:14:09 UTC
From: trevorhardisty
Topic: 31 Message: 36

--- In rtrak@yahoogroups.com, "Jason" <lists@...> wrote:
>
> Please check the "Photos" section of the group. There is a new
> folder called "RTrak V 1.6" and it contains pictures of the latest
> RTrak board, including the first case that I hand milled for
> testing. Be gentle, that milling was done with a hand drill and it
> was a bit off. The milled end plates will be done by a professional
> shop and will fit just right.

Looks good
>
> This version contains a not-yet available, enhanced version of the
> SMT OpenTracker 1+. This version is 28 pins and contains SPI lines
> to control the MX-146 transmitter. Scott had the foresight to "add"
> the additonal pins to the bottom of the pin rows, on the module,
> allowing for the original 24 pin module to still be used. All RTraks
> will ship with this new 28 pin version.
>
> You will also see a 16 position HEX rotary switch in the top right
> corner of the board. This will be used for frequency selection. The
> proposed method is to have a frequency table in the OpenTracker
> config software that can hold up to eight frequencies. Any of these
> eight will be selectable by choosing between positions 0 and 8. This
> will be used for single frequency beaconing. When selecting
> positions 9 through F, you can select one of the first eight, as well
> as a pre-determined secondary frequency for dual frequency
> beaconing. Using this method will allow you to switch between these
> two modes easily, without the need of a computer to change. Please,
> share your comments on this.
>
> Last, there is a 5th picture in the folder that shows a Pelican case
> that has been "plucked" to hold a RTrak, GPS antenna, power cable and
> programming cable. I would like to hear if there is any interest in
> these cases. If there is enough demand, I will offer these as an
> extra accessory to the RTrak package, pre "plucked" of course!

good idea, price?

> Now, to answer the main question! "How much is it?" We have settled
> on a price of $250 per unit. This will include, the RTrak (with
> case), GPS patch antenna, lighter power cable, programming cable and
> manual. After much comparison with other similar devices and number
> crunching, this is the price that we have decided on. We compared
> mostly with the frequency agile MicroTrak, which is $220. The
> MicroTrak is nice, but it does not include a built-in GPS, case,
> cables or even the DB9 to connect a GPS. We feel that with our

> price, you are getting much more for the dollar.
>
> Comments? Suggestions? Complaints?

Price sounds good to me, when will it be available?

> Thank you very much for all of the input on and off of this SIG!
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
Trevor

37. Re: Poll: How would you use your RTrak(s)?

Yahoo group: RTrak
Date: 2007-11-20 01:17:54 UTC
From: usna71
Topic: 9 Message: 37

I need to do three things involved with a balloon ascent to 120,000 feet. Track it with a position every minute, obtain continuous telemetry data from it, and get a beacon from it for finding it on the ground after the flight.

38. Re: RTrak Component Specs and Features Update/Comments/Questions

Yahoo group: RTrak
Date: 2007-11-24 13:34:04 UTC
From: RobertCGRO
Topic: 22 Message: 38

1. Bundled 2m antenna not a real selling point necessity. I think tht most of us using mobles already have enough mag-mounts ;)

2. No problem pre-ordering for first run, if enough field testing with beta testers has fixed any problems and bugs that are usually found in the first run.

3. Waiting time isn't a factor if the product is 100% operational re no. 2 above. Get it right the first time before putting it on the market.

4. 3 months is no problem as it relates to no. 2 and no. 3 above.

I would like to see more power from the unit. In my part of the APRS world (northwestern Ontario) APRS stations are far and few between. Sometimes 5 watts is needed to hit a DIGI/IGATE station. The microTrak on Byonics site has an optional add-on 8w RF amp and also a modle with it self-contained one. Any thought to adding an RF amp on the board as an option or just perhaps getting the current transmitter up to say even a watt?

This is probably one of the most exciting new products in the APRS world and probably indicative of things to come. They are even marketing a tracking jacket for kids using GPS tracking being offered on the market (not APRS of course).

I've been working on setting up APRS in the Thunder Bay area, and even last year the techno-babble and hardware/software involved was too much for the average newbie hams we have in our club. Plus, since there was no all-in-wonder gear, hooking things up or moving things from A to B was cumbersome and a pain after a while (D7/D700/D710 cost prohibitive for many). Now, with the APRS.FI website (among others) and the new harware coming out, APRS is becomming more plug and play and non-Packet radio enabled hams can get into this aspect of amateur radio and not worry about the low-level end of things. Well...at least getting the new WIDEn-N paradigm settings right that is ;)

To the designers of the RTrak, all I can say is keep up the fantastic work! In my over 30 years as a radio officer, I've used a lot of electronics/software and I know that this RTrak will do very nicely. I can feel my credit card burning already!

BZ / FB ES 73,

Robert, VA3ROM
Senior Radio Officer

Thunder Bay/VBA Coast Guard Radio

http://my.tbaytel.net/va3rom

39. RTrac

Yahoo group: RTrak
Date: 2007-11-27 02:07:04 UTC
From: jager43_2000
Topic: 39 Message: 39

when will this be in the store?

40. Re: RTrac

Yahoo group: RTrak
Date: 2007-11-28 04:25:25 UTC
From: Jason
Topic: 39 Message: 40

We plan to offer it for sale by mid-December. We will announce here
as soon as it is ready.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In rtrak@yahoogroups.com, "jager43_2000" <kd7ytj@...> wrote:
>
> when will this be in the store?

41. Re: [rtrak] Re: RTrac

Yahoo group: RTrak
Date: 2007-11-28 08:08:06 UTC
From: Facility 406 DM09
Topic: 39 Message: 41

"$75.00 + Shipping --- Part #RMX146"

That leaves me out. For a module at this price I'd like to see 3 - 5W output and about 40 MHz of frequency agility, even if only available in blocks a few MHz wide, for example, 136 - 144, 144 - 148, 148 - 160 and 160 - 174 Mhz...

Perhaps they will drop in price when mass produced?

Kurt

42. Re: RTrac

Yahoo group: RTrak
Date: 2007-11-28 23:36:18 UTC
From: Jason
Topic: 39 Message: 42

--- In rtrak@yahoogroups.com, "Facility 406 DM09" <facility_406@...>
wrote:
>
> "$75.00 + Shipping --- Part #RMX146"
>
> That leaves me out. For a module at this price I'd like to see 3
- 5W

I understand, but this does bring up the age old argument of
transmitting "in the blind". The MX-146 is only a transmitter, not a
transceiver. The major complaint is transmitting at will, not
knowing if the channel is already in use and possible clobbering
someone else.

When you are under a watt, this is more acceptable because there is a
good chance that you will lose the battle with the other tracker.
That is, unless you are both at the same power, then it's an equal
fight :o)

As for the actual price, the truth is, you just cannot produce a
frequency-agile module like this for much less. My profit margin is
actually very small and that is why I strive to develop products that
contain it, with a ready to go use. However, I will gladly offer it
on the website by it'self, for anyone who wishes to buy one.

> output and about 40 MHz of frequency agility, even if only
available in
> blocks a few MHz wide, for example, 136 - 144, 144 - 148, 148 -
160 and
> 160 - 174 Mhz...

I will talk with the guys at SRB and see if we can get the range
expanded. There may have to be two versions for legal reasons. One
that is strictly in the 2M range, as well as an expanded CAP/MARS
version. I will check into this and get back to you. One of the SRB
guys may be on this list and answer quicker than I can ask them.

> Perhaps they will drop in price when mass produced?

That is the idea. The problem is, the module will literally have to
be produce by the 1000 to get any significant price reduction. We're
keeping our fingers crossed.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

43. Re: RTrak Component Specs and Features Update/Comments/Questions

Yahoo group: RTrak
Date: 2007-11-28 23:47:56 UTC
From: Jason
Topic: 22 Message: 43

--- In rtrak@yahoogroups.com, "RobertCGRO" <robertcgro@...> wrote:
>
> 1. Bundled 2m antenna not a real selling point necessity. I think
> tht most of us using mobles already have enough mag-mounts ;)

Yep, I have dropped the idea of including it, but I may still offer is as an accessory on the website.

>
> 2. No problem pre-ordering for first run, if enough field testing
> with beta testers has fixed any problems and bugs that are usually
> found in the first run.

We MAY try a pre-run batch of about 10 for some serious beta testing. We have no decided yet, but I will announce it here as soon as we do.

> 4. 3 months is no problem as it relates to no. 2 and no. 3 above.

We are looking at a 6 week leadtime. Not quite 3 months, more like 1 and a half. Of course, if we can produce them faster, they will ship faster.

>
> I would like to see more power from the unit. In my part of the
APRS
> world (northwestern Ontario) APRS stations are far and few
between.
> Sometimes 5 watts is needed to hit a DIGI/IGATE station. The
> microTrak on Byonics site has an optional add-on 8w RF amp and
also
> a modle with it self-contained one. Any thought to adding an RF
amp
> on the board as an option or just perhaps getting the current
> transmitter up to say even a watt?

At this time, I do not plan on any kind of amp because the tracker is not capable of receving, thus it cannot detect channel activity. We want to make every attempt to NOT walk over someone else on the channel. I know that not everyone suscribes to this thought, but I do and I feel it is sort of a gentleman's agreement for the APRS network.

Having said that, there is nothing stopping anyone from addding on an additonal external amp like a Mirage that can detect the RF and self-key it'self. I just do not condone this.

>
> This is probably one of the most exciting new products in the APRS
> world and probably indicative of things to come. They are even
> marketing a tracking jacket for kids using GPS tracking being
> offered on the market (not APRS of course).

Thank you! We have put many hours and dollars into development so
far and really hope that it will be one of the best APRS devices
available on the market.

Not to be forgotten, plenty of thanks goes to Scott Miller N1VG of
Argent Data Systems for taking the time to modify the OpenTracker
firmware, to control the transmitter and some additonal features soon
to be added to the RTrak package.

>
> I've been working on setting up APRS in the Thunder Bay area, and
> even last year the techno-babble and hardware/software involved
was
> too much for the average newbie hams we have in our club. Plus,
> since there was no all-in-wonder gear, hooking things up or moving
> things from A to B was cumbersome and a pain after a while
> (D7/D700/D710 cost prohibitive for many). Now, with the APRS.FI
> website (among others) and the new harware coming out, APRS is
> becomming more plug and play and non-Packet radio enabled hams can
> get into this aspect of amateur radio and not worry about the low-
> level end of things. Well...at least getting the new WIDEn-N
> paradigm settings right that is ;)

The whole point behind the RTrak is to fill a niche of those who do
not want the extra cables, boxes and extra mess that it takes to
build a simple tracker. This is truly the first plug and play
tracker on the market.

>
> To the designers of the RTrak, all I can say is keep up the
> fantastic work! In my over 30 years as a radio officer, I've used
a
> lot of electronics/software and I know that this RTrak will do
very
> nicely. I can feel my credit card burning already!

Well, keep checking here and the RPC Electronics website because we
will be announcing sales very soon!

Thank you for all of your input, Robert.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

44. Re: RTrak Update

Yahoo group: RTrak
Date: 2007-11-28 23:52:59 UTC
From: Jason
Topic: 31 Message: 44

--- In rtrak@yahoogroups.com, "vk1nut" <vk1nut@...> wrote:
>
>
> 1. The 8 pos rotary switch is a good idea, access from the outside
> through a hole with a screen print giving indication of the 8
> positions could be handy.This means there would not be any need to
> open the case to change frequencies.

Glenn, I have given this some more thought and I think I am going to stick with not drilling the hole before the unit ships, but I am going to have instructions on the website, along with dimensions to allow the end user to drill the hole themselves.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

45. Re: [rtrak] Re: RTrac

Yahoo group: RTrak
Date: 2007-11-29 00:06:01 UTC
From: Facility 406 DM09
Topic: 39 Message: 45

Think high power (relatively) single channel telemetry transmitter, not just an APRS unit designed to get stepped on by the other units to not hurt someone elses feelings. There many, many more frequencies and applications than APRS for a good TX module.

Kurt

46. dumb question time

Yahoo group: RTrak
Date: 2007-11-29 12:45:14 UTC
From: texasexpediter
Topic: 46 Message: 46

I want to have a system in my truck that will let folks at home follow me around via findu.com or similar. Do I understand correctly that with this unit I only need to attach a 2m antenna and it will do that?

47. Delivery Times

Yahoo group: RTrak
Date: 2007-11-29 16:32:18 UTC
From: Michael Crowder
Topic: 47 Message: 47

Based on current "first run" numbers and schedules, does it seem possible that I could have a RTRAK in my hands by December 17th, for a nice long cross country trip?

I hope, I hope, I hope.

--
Michael
KB4LFH

48. Re: RTrak Update

Yahoo group: RTrak
Date: 2007-11-29 16:34:13 UTC
From: Michael Crowder
Topic: 31 Message: 48

Will the $250 include the nice carrying case as well?

--
Michael
KB4LFH

--- In rtrak@yahoogroups.com, "Jason" <lists@...> wrote:

> Now, to answer the main question! "How much is it?" We have settled
> on a price of $250 per unit. This will include, the RTrak (with
> case), GPS patch antenna, lighter power cable, programming cable and
> manual.

49. MX-146

Yahoo group: RTrak
Date: 2007-11-29 16:39:35 UTC
From: Tim Smith
Topic: 49 Message: 49

I think the MX-146 is a good idea for special projects off the main APRS channel. I'm not too concerned with the disruptive aspects of a blind transmitter due to the low power (except in balloon launches on the main aprs channel). I would be more concerned with its ability to get packets thru without some type of carrier detection. Off channel in low traffic environments, yes...routine trackers on channel...I don't see it being successful.

No virus found in this outgoing message.
Checked by AVG Free Edition.
Version: 7.5.503 / Virus Database: 269.16.10/1159 - Release Date: 2007-11-29 11:10

50. Re: [rtrak] dumb question time

Yahoo group: RTrak
Date: 2007-11-29 17:47:38 UTC
From: Curt, WE7U
Topic: 46 Message: 50

On Thu, 29 Nov 2007, texasexpediter wrote:

> I want to have a system in my truck that will let folks at home follow
> me around via findu.com or similar. Do I understand correctly that
> with this unit I only need to attach a 2m antenna and it will do that?

It's a bit low-powered for mobile use. There are other considerations also such as the APRS channel usage (in your area and the areas you're going to travel through), what the igate coverage is, etc.

I'd recommend 10W - 20W for a mobile setup, with a good permanent-mount antenna.

Consider a Kenwood D710A or an Alinco DR-135T with a T2-135 (Tracker2) TNC from Scott Miller thrown in if you want a mostly all-in-one tracker setup for a mobile.

Or you can go cheap like many of us and run a tinytrak or an opentracker/tracker2 with a cheapie mobile radio/antenna/GPS. More integration required, but more satisfaction too when it all works.

I'm running a 2-meter mobile bought on sale ($150), a Radio Shack GPS bought on closeout ($29.97), and an OpenTracker-1 in my Jeep. I run a separate 2-meter mobile for voice.

If I was starting from scratch I'd probably go with the Alinco/T2-135 combo as it'd result in fewer cables but as much capability: Just need power/antenna/GPS/GPS-cable. Don't buy the Alinco DR-135TP (Note the 'P'), which includes a crappy TNC inside. Buy it without the TNC (DR-135T) and add Scott's T2-135 board inside it.

--
Curt, WE7U: <www.eskimo.com/~archer/> XASTIR: <www.xastir.org>
"Lotto: A tax on people who are bad at math." -- unknown
"Windows: Microsoft's tax on computer illiterates." -- WE7U
The world DOES revolve around me: I picked the coordinate system!

51. Re: RTrac

Yahoo group: RTrak
Date: 2007-11-29 22:50:43 UTC
From: Jason
Topic: 39 Message: 51

--- In rtrak@yahoogroups.com, "Facility 406 DM09" <facility_406@...>
wrote:
>
> Think high power (relatively) single channel telemetry
> transmitter, not just an APRS unit...There many, many more
> frequencies and applications than APRS for a good TX module.

Point well taken, Kurt. This is a good example of where some kind of
Mirage type amp would be useful. My other fear of adding the amp
would increase the price about another $40-50. At almost $300 a
unit, it's not very attractive to the average user anymore.

Thank you for the input!

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

52. Re: dumb question time

Yahoo group: RTrak
Date: 2007-11-29 22:58:49 UTC
From: Jason
Topic: 46 Message: 52

--- In rtrak@yahoogroups.com, "texasexpediter" <K5LDB.Leo@...> wrote:

> Do I understand correctly that with this unit I only need to attach
> a 2m antenna and it will do that?

Simply put, Yes, all you have to do is add the power and this will do that for you.

In response to Curt's comments, power is not everything. There are plenty of places that you will NEVER get digipeated, iGated or even seen for the simple fact that there is no one or thing with APRS equipment. I can show you places in Virginia alone that not even my 50W tracker was digipeated or iGated. I was possibly received by someone's home station, but there is no way I can prove that.

I admit that the RTrak's output power of 850mW is low, but with a decent antenna and decent digipeater coverage, you have a pretty good chance of getting in as everyone else in the area does. Our tests right here in Virginia Beach, Va. have shown that and we have moderate digipeater coverage. Our testing has been with a 5/8 wave whip antenna so far.

Just my $0.02 on the subject.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

53. Re: RTrak Update

Yahoo group: RTrak
Date: 2007-11-29 23:00:34 UTC
From: Jason
Topic: 31 Message: 53

--- In rtrak@yahoogroups.com, "Michael Crowder" <sonex293@...> wrote:
>
> Will the $250 include the nice carrying case as well?

No, I can't quite get them that cheap. I will however pre "pluck" the foam so that your RTrak kit will fit right out of the box. The target price on the Pelican case is about $35 each.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

54. Re: [rtrak] Re: RTrac

Yahoo group: RTrak
Date: 2007-11-29 23:11:00 UTC
From: Jason KG4WSV
Topic: 39 Message: 54
Attachments: 2 described; binary payloads are missing from this source WARC

[Attachment content not displayed]

55. Random thoughts and comments...

Yahoo group: RTrak
Date: 2007-11-29 23:32:18 UTC
From: Facility 406 DM09
Topic: 55 Message: 55

: Point well taken, Kurt. This is a good example of where some kind of
: Mirage type amp would be useful. My other fear of adding the amp
: would increase the price about another $40-50. At almost $300 a
: unit, it's not very attractive to the average user anymore.

An MMIC amp made with components from MiniCircuits would only add a few dollars to the cost of the TX module. I wasn't refering to the whole RTrak price, just the TX itself. I know what MiniCircuits asks for their stuff, I also know what goes into them and am under the impression everyone in marketing has a herion addiciton to try and justify their severe "bend over and take it" pricing. I got enough samples from them to build five high power units. If they can give the parts away, why do they ask nearly a grand? I think they are trying to re-coupe their developement costs on each and every unit they sell.

Kurt

56. Re: dumb question time

Yahoo group: RTrak
Date: 2007-11-30 22:15:37 UTC
From: RobertCGRO
Topic: 46 Message: 56

The best site for tracking APRS that I've seen and used is
www.aprs.fi and open to all. It has a lot of features and can create
a Googe Earth KML if you prefer it for tracking.

Ys, 1/2 watt is fine for most areas served by a digi or fill-in APRS
repeater(s). The idea is not to flood rf with high power signals
beyond your local area. The Internet takes care of gating your signal
for the rest of the world to see. That's the idea of the new WIDEn-N
paradigm as well.

Be very careful about jumping in and buying hardware without
understanding the protocols and operating modes required to use it.
Take a visit over to Bob Bruninga's (WB4APR) website. He's the father
of APRS and the fount of all knowledge therein. APRS is just like CW.
It's very easy and it's very hard, or else everyone would be doing it!

73,
Rob't VA3ROM
http://my.tbaytel.net/va3rom

--- In rtrak@yahoogroups.com, "texasexpediter" <K5LDB.Leo@...> wrote:
>
> I want to have a system in my truck that will let folks at home
follow
> me around via findu.com or similar. Do I understand correctly that
> with this unit I only need to attach a 2m antenna and it will do
that?
>

57. Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-03 03:14:48 UTC
From: texasexpediter
Topic: 46 Message: 57

--- In rtrak@yahoogroups.com, "Curt, WE7U" <archer@...> wrote:
>
> On Thu, 29 Nov 2007, texasexpediter wrote:
>
> > I want to have a system in my truck that will let folks at home follow
> > me around via findu.com or similar. Do I understand correctly that
> > with this unit I only need to attach a 2m antenna and it will do that?
>
> It's a bit low-powered for mobile use. There are other
> considerations also such as the APRS channel usage (in your area and
> the areas you're going to travel through), what the igate coverage
> is, etc.
>
> I'd recommend 10W - 20W for a mobile setup, with a good
> permanent-mount antenna.
>
> Consider a Kenwood D710A or an Alinco DR-135T with a T2-135
> (Tracker2) TNC from Scott Miller thrown in if you want a mostly
> all-in-one tracker setup for a mobile.
>
> Or you can go cheap like many of us and run a tinytrak or an
> opentracker/tracker2 with a cheapie mobile radio/antenna/GPS. More
> integration required, but more satisfaction too when it all works.
>
> I'm running a 2-meter mobile bought on sale ($150), a Radio Shack
> GPS bought on closeout ($29.97), and an OpenTracker-1 in my Jeep. I
> run a separate 2-meter mobile for voice.
>
> If I was starting from scratch I'd probably go with the
> Alinco/T2-135 combo as it'd result in fewer cables but as much
> capability: Just need power/antenna/GPS/GPS-cable. Don't buy the
> Alinco DR-135TP (Note the 'P'), which includes a crappy TNC inside.
> Buy it without the TNC (DR-135T) and add Scott's T2-135 board inside
> it.
>
> --
> Curt, WE7U: <www.eskimo.com/~archer/> XASTIR: <www.xastir.org>
> "Lotto: A tax on people who are bad at math." -- unknown
> "Windows: Microsoft's tax on computer illiterates." -- WE7U
> The world DOES revolve around me: I picked the coordinate system!
>

I've thought about the 710 with an Avmap. That would require dealing
with the wiring etc. on it as well as perhaps more complicated
learning curves. I'm sure Alinco is good but I'd go with the Kenwood

if I was going that route. I was just hoping to find a solution that is plug in and go.

58. Re: [rtrak] Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-03 04:33:02 UTC
From: Jason Rausch
Topic: 46 Message: 58

--- texasexpediter <K5LDB.Leo@...> wrote:

> I was just hoping to find a solution that is plug
> in and go.

That is exactly the niche that the RTrak was created
to fill. Plug and play.

I have been checking into 35W Mirage 2M amps. The
typical price is $90 a unit. This would be what I
would consider the best match with the RTrak.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

59. Re: RTrac

Yahoo group: RTrak
Date: 2007-12-03 04:48:33 UTC
From: Jason
Topic: 39 Message: 59

--- In rtrak@yahoogroups.com, "Jason KG4WSV" <kg4wsv@...> wrote:

> could be, especially for the typical (cheap) ham, but don't
discount the
> attractiveness/utility of a single package solution. I really like
the idea
> of a transmitter with a microcontroller interface.

Thanks Jason. Obviously, we saw a need for an all in one package
that could be set up in a minimal ammount of time and trouble. We
did'nt want to simple take off the shelf parts and stuff them in a
Pelican case. We felt there was a better way to incorporate
everything into a small, lightweight, durable package and that became
the RTrak.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

60. Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-04 00:18:29 UTC
From: texasexpediter
Topic: 46 Message: 60

--- In rtrak@yahoogroups.com, Jason Rausch <lists@...> wrote:
>
>
> --- texasexpediter <K5LDB.Leo@...> wrote:
>
> > I was just hoping to find a solution that is plug
> > in and go.
>
> That is exactly the niche that the RTrak was created
> to fill. Plug and play.
>
> I have been checking into 35W Mirage 2M amps. The
> typical price is $90 a unit. This would be what I
> would consider the best match with the RTrak.
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>

So if I got an rtrak, either with or without the Mirage, would I have to find out frequencies where I was driving or just set it and forget it? If you have to change the freq. all the time that partially defeats the purpose of plug it in and forget it. As is obviously apparent I know very little about this area.

61. Re: [rtrak] Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-04 03:36:07 UTC
From: Facility 406 DM09
Topic: 46 Message: 61

The national 2m APRS is 144.39 MHz. Set it to that and leave it alone...

Kurt

----- Original Message -----
From: "texasexpediter" <K5LDB.Leo@...>

: So if I got an rtrak, either with or without the Mirage, would I have
: to find out frequencies where I was driving or just set it and forget
: it? If you have to change the freq. all the time that partially
: defeats the purpose of plug it in and forget it. As is obviously
: apparent I know very little about this area.

62. Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-05 19:47:54 UTC
From: Jason
Topic: 46 Message: 62

--- In rtrak@yahoogroups.com, "Facility 406 DM09" <facility_406@...>
wrote:
>
> The national 2m APRS is 144.39 MHz. Set it to that and leave it
> alone...

We are working on some frequency schemes right now. There will be
either 4 or 8 frequency slots that will be user-definable. Either
way, we will ship the unit with 144.390 pre-loaded in the first
frequency slot. When you receive the unit, all that you have to do
is program the minimal settings: your callsign, path and beacon
comment. Plug it in and let it go!

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

63. how about extra inputs ?

Yahoo group: RTrak
Date: 2007-12-11 22:16:08 UTC
From: Don Pomplun
Topic: 63 Message: 63

```
If the processor you are going to use has extra digital inputs, how
about offering them up on something like a D-connector. Their status
could just be transmitted as an additional byte in the data,
user-definable. Analog?
Don
```

64. RTrak manual ?

Yahoo group: RTrak
Date: 2007-12-11 22:28:40 UTC
From: Don Pomplun
Topic: 64 Message: 64

```
If due out this month there must be at least a preliminary manual, no?
I don't see any link to one to download to look at "real" details of
software programmability, etc.
Don
```

65. Re: [rtrak] how about extra inputs ?

Yahoo group: RTrak
Date: 2007-12-12 13:37:16 UTC
From: Jason Rausch
Topic: 63 Message: 65

Don, the RTrak is based on the latest version of the SMT OpenTracker 1+, which employs 10 ADC channels meant for telemetry type input. I have only heard from one person expressing interest in using these ADC pins, but they are there for anyone to take advantage of.

I will warn you though that ADC pins 1-4 are being used for frequency selection. These pins are tied to the 16 position HEX encoder that selects what pre-programmed frequency you would like to operate on.

I don't have any plans on adding a seperate external connector for the ADC pins, however, there is a two row pin header on the board that allows you to interface your application to the ADC pins. It would not take much to cut a small notch in the un-milled end panel and run a small ribbon cable out to your external telemetry source.

Hope that helps,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- Don Pomplun <BlueFlash@...> wrote:

> If the processor you are going to use has extra
> digital inputs, how
> about offering them up on something like a
> D-connector. Their status
> could just be transmitted as an additional byte in
> the data,
> user-definable. Analog?
> Don
>
>
>

66. Re: [rtrak] RTrak manual ?

Yahoo group: RTrak
Date: 2007-12-12 13:40:39 UTC
From: Jason Rausch
Topic: 64 Message: 66

Don, I am working on a preliminary manual that I plan
to post in the next week for pre-reading. I have not
posted anything until now because we have not nailed
down several crucial details dealing with the
frequency selection and programming. As soon as I
have these details, I will update the manual and post
it for public viewing.

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- Don Pomplun <BlueFlash@...> wrote:

> If due out this month there must be at least a
> preliminary manual, no?
> I don't see any link to one to download to look at
> "real" details of
> software programmability, etc.
> Don
>
>
>

67. Re: how about extra inputs ?

Yahoo group: RTrak
Date: 2007-12-13 00:03:35 UTC
From: usna71
Topic: 63 Message: 67

Jason:
I for one would be very interested in the telemetry. However, I need a cookbook as I don't know how to put it all together. But I really want to learn about it.

KB1MOV

--- In rtrak@yahoogroups.com, Jason Rausch <lists@...> wrote:
>
> Don, the RTrak is based on the latest version of the
> SMT OpenTracker 1+, which employs 10 ADC channels
> meant for telemetry type input. I have only heard
> from one person expressing interest in using these ADC
> pins, but they are there for anyone to take advantage
> of.

68. Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-13 03:13:33 UTC
From: c0j
Topic: 46 Message: 68

Another dumb question... I did a quick search in the archives, and couldn't see the answer. Are you considering an internal power option?

Regards
de John
EI7IG

69. Re: [rtrak] Re: how about extra inputs ?

Yahoo group: RTrak
Date: 2007-12-17 22:19:41 UTC
From: Jason Rausch
Topic: 63 Message: 69

--- usna71 <bill.brown.tu78@...> wrote:

> I for one would be very interested in the
> telemetry.

I think a lot of people are interested in what uses
there are for real time telemetry, so I am actively
searching out good examples that I could put into the
manual.

> However, I
> need a cookbook as I don't know how to put it all
> together. But I
> really want to learn about it.

As I said, I would like to include some example of use
in the RTrak manual. I plan to work on the manual
this week.

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

70. Re: [rtrak] Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-17 22:22:27 UTC
From: Jason Rausch
Topic: 46 Message: 70

--- c0j <c0j_1999@...> wrote:

> Another dumb question... I did a quick search in the
> archives, and couldn't see the answer.
> Are you considering an internal power option?

John, the idea has come up and may be a feature in
some future RTrak version. If I was to include a
battery, it would be one of the new Lithium Polymer
batteries, with a built in LiPo charger that can
change the battery, while being powering from a +12V
source.

Maxim IC makes a single chip solution for LiPo
charging, so I am looking into doing somthing with
that down the road...long down the road.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

71. Re: [rtrak] Re: dumb question time

Yahoo group: RTrak
Date: 2007-12-18 09:36:57 UTC
From: Jon
Topic: 46 Message: 71

> > Another dumb question... I did a quick search in
> the
> > archives, and couldn't see the answer.
> > Are you considering an internal power option?
>
> John, the idea has come up and may be a feature in
> some future RTrak version. If I was to include a
> battery, it would be one of the new Lithium Polymer
> batteries, with a built in LiPo charger that can
> change the battery, while being powering from a +12V
> source.
Nice...

>
> Maxim IC makes a single chip solution for LiPo
> charging, so I am looking into doing somthing with
> that down the road...long down the road.
Ok cool...

For throwing in a pack.. it makes sense to have the
batteries part of the unit..

John

Sent from Yahoo! Mail - a smarter inbox http://uk.mail.yahoo.com

72. End of 2007 RTrak Update

Yahoo group: RTrak
Date: 2007-12-27 02:06:49 UTC
From: Jason
Topic: 72 Message: 72

First off, we hope everyone on the list had a great holiday.

We are a little behind on the RTrak schedule. We had hoped to have the RTrak ordering start the middle of this month, but there have been a few things slowing us down. Mostly certain vendors getting back to us on availabilty of parts and slow shipping.

Now that the holidays are past us, we are right back on track with our progress and hope to have a major announcement very soon.

For the time being, I have posted a new picture in the "Photos" section of the group. Thanks to our friend Jim KB0THN over at APRS World, LLC, (www.aprsworld.net) we now have a professionally milled end panel to show off. There are a few tweaks to be done to the label layout, but other than that, this is what the panel will look like on the final unit.

As previously asked about, I have been working on a preliminary manual that I plan to release this week for those interested in the RTrak.

Standy by for the official release.

Thanks to everyone for their input. We wish everyone a wonderful up and comming new year!

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

73. Just saying hello, I'm one of the newbies here now!

Yahoo group: RTrak
Date: 2008-01-02 00:03:44 UTC
From: earthlingone
Topic: 73 Message: 73

I am entirely new to APRS but have an Electronics Technician training so that will help. I probably won't be posting much but appreciate being able to access the site features now. I have been reading about APRS all over the internet and am currently trying out the interesting AWGTracker software that lets me connect to the "mygate" servers all over the globe. That is really awesome. I think the Rgate project looks on track as the best incorporation of elements I have found so far. I will put in my small pip-squeak comment that I envivision repackaging one and prefer a modular susbsystem approach so it could be physically organized in a linear shape rather than rectangular, to fit in a model rocketry or other balloon format et-cetera....OK, enough for my 1st post. Thanks for letting me join here!
Forest

74. Re: Just saying hello, I'm one of the newbies here now!

Yahoo group: RTrak
Date: 2008-01-02 00:10:25 UTC
From: Jason Rausch
Topic: 73 Message: 74

Forest,

Welcome to the group. Look forward to your input.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In rtrak@yahoogroups.com, "earthlingone" <opentracker@...> wrote:
>
> I am entirely new to APRS but have an Electronics Technician
training
> so that will help. I probably won't be posting much but appreciate
> being able to access the site features now. I have been reading
about
> APRS all over the internet and am currently trying out the
interesting
> AWGTracker software that lets me connect to the "mygate" servers all
> over the globe. That is really awesome. I think the Rgate project
> looks on track as the best incorporation of elements I have found so
> far. I will put in my small pip-squeak comment that I envivision
> repackaging one and prefer a modular susbsystem approach so it could
> be physically organized in a linear shape rather than rectangular,
to
> fit in a model rocketry or other balloon format et-cetera....OK,
> enough for my 1st post. Thanks for letting me join here!
> Forest
>

75. Happy 2008!

Yahoo group: RTrak
Date: 2008-01-02 00:11:36 UTC
From: Jason Rausch
Topic: 75 Message: 75

Happy New Years to everyone on the list!

Heres to peace, happiness and prosperity in the new year.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

76. Extreme APRS operations

Yahoo group: RTrak
Date: 2008-01-03 21:01:00 UTC
From: earthlingone
Topic: 76 Message: 76

Jason, the discussions here about transmission power and battery capacity is interesting and timely, whether it is for fear of stepping on others or running out of resources in a remote area if we "amp it up". My extreme APRS dream-project seeks to place (as an example scenario) unit(s) in Antarctica that are about as autonomous as possible (even solar powered with no human intervention except an annual check-up) that can successfully be digipeatd using ARISS to relay to Australia (or as needed) to route to the internet at least once a day (hopefully) without stepping on any other unit(s) placed in the area trying to do the same. That means a future autonomous model that can detect nearby transmissions and hold-off. The transmission cycle versus power resources will be critical, so using a flea power output is desirable, the minimum amount needed to connect to ARISS or other bird, it provides the benefit of efficient use of little power resources. Sort of imagine making it like the rovers on Mars...every milliamp counts. Well thats my dream of extreme APRS for extreme remote OPS. Any comments will surely be interesting even if it is to tell me I am off my nut.

77. Re: [rtrak] Extreme APRS operations

Yahoo group: RTrak
Date: 2008-01-04 11:36:01 UTC
From: Tapio Sokura
Topic: 76 Message: 77

earthlingone wrote:
> remote OPS. Any comments will surely be interesting even if it is to
> tell me I am off my nut.

I sort of got hung up on the antarctica and solar power combination. I guess it could work during their summer, but once the sun sets, it will be gone for 6 months.. need big batteries for that :) I guess you'd want wind power in addition. Anyway interesting ideas.

Tapio

78. Re: [rtrak] Extreme APRS operations

Yahoo group: RTrak
Date: 2008-01-04 20:26:30 UTC
From: EarthlingOne
Topic: 76 Message: 78

Tapio Sokura wrote:
>
> earthlingone wrote:
> > remote OPS. Any comments will surely be interesting even if it is to
> > tell me I am off my nut.
>
> I sort of got hung up on the antarctica and solar power combination. I
> guess it could work during their summer, but once the sun sets, it will
> be gone for 6 months.. need big batteries for that :) I guess you'd want
> wind power in addition. Anyway interesting ideas.
>
> Tapio
>
>
> Have you gotten your daily dose of information?
> Click the link below, and enjoy the latest news specifically for Nerds.
> http://www.slashdot.org
Hi Tapio.
Thanks for writing. That is good information about the dark cycle, and
wind would be very likely down there so a mini-wind generator might be a
really fun option to try and develop and test before sending it down for
service. As you know, this all takes a lot of time to try and do so I'll
put you in my email address book for APRS people I am talking to and
share information I might find with you from time to time.

79. Re: [rtrak] Extreme APRS operations

Yahoo group: RTrak
Date: 2008-01-04 20:39:32 UTC
From: EarthlingOne
Topic: 76 Message: 79

Tapio Sokura wrote:
>
> earthlingone wrote:
> > remote OPS. Any comments will surely be interesting even if it is to
> > tell me I am off my nut.
>
> I sort of got hung up on the antarctica and solar power combination. I
> guess it could work during their summer, but once the sun sets, it will
> be gone for 6 months.. need big batteries for that :) I guess you'd want
> wind power in addition. Anyway interesting ideas.
>
> Tapio
>
>
> Have you gotten your daily dose of information?
> Click the link below, and enjoy the latest news specifically for Nerds.
> http://www.slashdot.org
Hi Tapio.
Thanks for writing. That is good information about the dark cycle, and
wind would be a very likely resource down, there so a hardened mini-wind
generator might be really essential to develop and test before sending
it down for first trials. As you know, this all takes a lot of time to
try and do, so I'll
put you in my email address book for APRS people I am talking to and
share information I might find with you from time to time. For now all I
can say is it is a idea in process.

80. Latest Update?

Yahoo group: RTrak
Date: 2008-01-15 15:53:10 UTC
From: Scott Drumm
Topic: 80 Message: 80

Any new news on the rtrak release date? Inquiring hams are ready to purchase... ;)

73,
N3XFD

81. RTrak Update (was: Latest Update?)

Yahoo group: RTrak
Date: 2008-01-16 13:55:39 UTC
From: Jason Rausch
Topic: 80 Message: 81

--- In rtrak@yahoogroups.com, "Scott Drumm" <swdrumm@...> wrote:
>
> Any new news on the rtrak release date? Inquiring hams are ready to
> purchase... ;)

Yes, we are working out some small board issues. I have a new batch of PCBs on the way, as I speak.

I'll take this time to explain a few of the new features that people have been asking about.

Frequency Control:

The on-board MX-146 2M tranmitter is capable of any frequency between 144-148 MHz. In the configuration software, you will find a frequency table that holds a maximum of eight frequencies. Every one of these is user settable. That means, as long as the frequency falls in the 144-148 range, you can put it in there.

Along with the frequency table, two rows of nine selection "dots", better known as "radio" selectors. The first row is labeled "Primary" and the second row is labeled "Secondary). Primary 1-8 allows you to set the tracker to one of the specific frequencies in the table. This is set until you change this with the configuration software. The 9th selection is labled "Selected". This corresponds with a 16 position HEX rotary switch, located on the tracker board.

Rotary positions 0-7 will select one of the eight frequencies in the table. This can be changed on the fly by simply changing the rotary position.

Rotary positions 8-F will select one of the eight frequencies in the table, with the addition of a secondary frequency pre-determined at the time of programming. This secondary frequency will be used in a number of dual-frequency schemes.

Dual Frequency Schemes:

1. Simple dual timing scheme: This setup will allow beaconing on two different frequencies with set rates. Example: Beacon once every three minutes on Freq 1, Beacon once every five minutes on Freq 2.

2. OpenTracker Switch Based: This controls which frequency is beaconed on determined by a number of states such as altitude, input voltage, speed and heading. Example: Beacon on Freq 1 below 100' altitude and beacon on Freq 2 above 100' altitude.

Timeslotting:

Another feature that will be added has to do with precision timeslotting. The Copernicus GPS receiver provides a 1PPS (1 Pulse Per Second) signal that can be used to time slot beaconing at a very precise rate. This is very helpful when you may be using numerous trackers at the same time for something like a race event. Timeslotting forces the trackers to beacon at a set "schedule" and the trackers take turns, thus reducing the chance for packet collisions.

For those who have missed previous posts, the price has been set at $250 per unit and will include the RTrak, programming cable, GPS patch antenna, lighter plug power adapter and instruction manual.

We will start taking pre-orders on this first batch very soon. Once the pre-order starts, we expect to start shipping units within six weeks of that date. We will be using a "Small Wonder Labs" style of order updating. Once your order is received, we will place you on a page on our webpage. This will let you know that your order was received ok and keep you updated on the status of your order.

If you wish to NOT have this information posted, you will be given the option to opt out.

Questions and comments welcome!

Thank You!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

82. Re: [rtrak] RTrak Update (was: Latest Update?)

Yahoo group: RTrak
Date: 2008-01-16 15:24:03 UTC
From: Raymond Benedict
Topic: 80 Message: 82

What is the size, weight and TPO?
--- Jason Rausch <lists@...> wrote:

> --- In rtrak@yahoogroups.com, "Scott Drumm"
> <swdrumm@...> wrote:
> >
> > Any new news on the rtrak release date? Inquiring
> hams are ready to
> > purchase... ;)
>
> Yes, we are working out some small board issues. I
> have a new batch
> of PCBs on the way, as I speak.
>
> I'll take this time to explain a few of the new
> features that people
> have been asking about.
>
> Frequency Control:
>
> The on-board MX-146 2M tranmitter is capable of any
> frequency between
> 144-148 MHz. In the configuration software, you
> will find a
> frequency table that holds a maximum of eight
> frequencies. Every one
> of these is user settable. That means, as long as
> the frequency
> falls in the 144-148 range, you can put it in there.
>
> Along with the frequency table, two rows of nine
> selection "dots",
> better known as "radio" selectors. The first row is
> labeled
> "Primary" and the second row is labeled "Secondary).
> Primary 1-8
> allows you to set the tracker to one of the specific
> frequencies in
> the table. This is set until you change this with
> the configuration
> software. The 9th selection is labled "Selected".
> This corresponds
> with a 16 position HEX rotary switch, located on the
> tracker board.
>

> Rotary positions 0-7 will select one of the eight
> frequencies in the
> table. This can be changed on the fly by simply
> changing the rotary
> position.
>
> Rotary positions 8-F will select one of the eight
> frequencies in the
> table, with the addition of a secondary frequency
> pre-determined at
> the time of programming. This secondary frequency
> will be used in a
> number of dual-frequency schemes.
>
> Dual Frequency Schemes:
>
> 1. Simple dual timing scheme: This setup will allow
> beaconing on two
> different frequencies with set rates. Example:
> Beacon once every
> three minutes on Freq 1, Beacon once every five
> minutes on Freq 2.
>
> 2. OpenTracker Switch Based: This controls which
> frequency is
> beaconed on determined by a number of states such as
> altitude, input
> voltage, speed and heading. Example: Beacon on Freq
> 1 below 100'
> altitude and beacon on Freq 2 above 100' altitude.
>
> Timeslotting:
>
> Another feature that will be added has to do with
> precision
> timeslotting. The Copernicus GPS receiver provides
> a 1PPS (1 Pulse
> Per Second) signal that can be used to time slot
> beaconing at a very
> precise rate. This is very helpful when you may be
> using numerous
> trackers at the same time for something like a race
> event.
> Timeslotting forces the trackers to beacon at a set
> "schedule" and
> the trackers take turns, thus reducing the chance
> for packet
> collisions.
>
> For those who have missed previous posts, the price

> has been set at
> $250 per unit and will include the RTrak,
> programming cable, GPS
> patch antenna, lighter plug power adapter and
> instruction manual.
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> weeks of that date. We will be using a "Small
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> order updating. Once your order is received, we
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> page on our webpage. This will let you know that
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> If you wish to NOT have this information posted, you
> will be given
> the option to opt out.
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> Questions and comments welcome!
>
> Thank You!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>
>

Looking for last minute shopping deals?
Find them fast with Yahoo! Search.
http://tools.search.yahoo.com/newsearch/category.php?category=shopping

83. "Smart Beaconing" ? ?

Yahoo group: RTrak
Date: 2008-01-16 16:23:27 UTC
From: Don Pomplun
Topic: 83 Message: 83

I haven't seen any mention of Smart Beaconing i.e., Beaconing interval linked to velocity parameter from the GPS. I've been told (but not expended the effort to rigorously confirm) that a problem with SB, as implemented in TinyTrak is that as soon as you drop into the realm of less-frequent beaconing, it immediately sets he interval to the "infrequent rate". In my (real world) example, if the train is going faster than 1 mph, I beacon every minute; below that speed I consider it stopped, and switch to a 30 minute interval. The problem is that I don't get "one last beacon message" as I go from running to stopped. So in one message I'm going 25 mph, and suddenly I get nothing for 30 minutes. I reason that I should get an additional message as soon as I fall into the slower realm so I know it has happened. How is Rtrak handling this?

84. Re: [rtrak] "Smart Beaconing" ? ?

Yahoo group: RTrak
Date: 2008-01-16 16:33:54 UTC
From: Curt, WE7U
Topic: 83 Message: 84

On Wed, 16 Jan 2008, Don Pomplun wrote:

> I haven't seen any mention of Smart Beaconing i.e., Beaconing
> interval linked to velocity parameter from the GPS. I've been told
> (but not expended the effort to rigorously confirm) that a problem
> with SB, as implemented in TinyTrak is that as soon as you drop into
> the realm of less-frequent beaconing, it immediately sets he interval
> to the "infrequent rate".

Note: That's not a problem, but the intended operation of the
SmartBeaconing protocol. SmartBeaconing in Xastir works the same
way. I assume it's the same in the OpenTracker/Tracker2 TNC's.

See this page, and the link near the end, for the scoop on
SmartBeaconing:

<http://info.aprs.net/index.php?title=SmartBeaconing>

You can also get to the CornerPegging page from there.

> In my (real world) example, if the train is
> going faster than 1 mph, I beacon every minute; below that speed I
> consider it stopped, and switch to a 30 minute interval. The problem
> is that I don't get "one last beacon message" as I go from running to
> stopped. So in one message I'm going 25 mph, and suddenly I get
> nothing for 30 minutes. I reason that I should get an additional
> message as soon as I fall into the slower realm so I know it has
> happened. How is Rtrak handling this?

In my Jeep, which runs an OpenTracker1, I change to a different
config when I go below a certain MPH. At that point I change my
symbol from a Jeep to a Hiker (try that with a tinytrak!), and
change to fixed-rate beaconing of my choosing. I originally had it
at a 7min beacon rate and the APO switch turns off the whole shebang
when the vehicle battery hits a certain trigger point, so I think I
get 20 or 30 mins of operation when I park and then nothing. When I
start up the Jeep, it goes to the fixed-rate beaconing if I'm not
moving on the GPS gets a lock, or SmartBeaconing again if I'm
moving. It works very well.

--
Curt, WE7U: <www.eskimo.com/~archer/> XASTIR: <www.xastir.org>
"Lotto: A tax on people who are bad at math." -- unknown
"Windows: Microsoft's tax on computer illiterates." -- WE7U
The world DOES revolve around me: I picked the coordinate system!

85. Re: [rtrak] RTrak Update (was: Latest Update?)

Yahoo group: RTrak
Date: 2008-01-16 23:46:49 UTC
From: Jason Rausch
Topic: 80 Message: 85

--- Raymond Benedict <rcbenedict1545@...> wrote:

> What is the size, weight and TPO?

Great question! I had meant to post this information
in the last update, but it slipped my mind.

There are many people on this list interested in light
weight solutions for portable use, bicycle use, high
altitude balloon projects and much more.

Here are the size and weight specs:

With Case:

206g or 7.25 oz
123x78x27 mm (LxWxH)

Without Case:

62g or 2.25 oz
120x75x27 mm (LxWxH) *Note

* Height indicates highest component on the PCB

TPO (Transmit Power Out) is a nominal 500mW, but we
have seen as much as 750mW out. At a normal APRS
beacon rate, the transmitter can sing all day long.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

86. Re: [rtrak] "Smart Beaconing" ? ?

Yahoo group: RTrak
Date: 2008-01-17 00:01:18 UTC
From: Jason Rausch
Topic: 83 Message: 86

Don,

The RTrak is built around the SMT OpenTracker V2.0 and since this is the case, the RTrak will have all functions of the OpenTracker, including SmartBeaconing.

I was actually introduced to SmartBeaconing by the original device to have it, the HamHUD. SmartBeaconing was developed by Steve Bragg KA9MVA and Tony Arnerich KD7TA and they did a great job in trying to include every possible parameter that would determine the best beaconing rate and cycle. As we all know, nothing is perfect.

The situation that you described has been a topic of discussion in several forums, regarding SmartBeaconing. There has been some talk of adding in a function that will basically look for a drastic drop in speed and then determine if it's a permanant stop or just a stop at a red-light (for example). The best way I see to do this is when there is a drastic drop in speed, set a timer. If the timer expires, assume the tracker is destinated and send a final packet to show that, if not, resume tracking and normal.

Scott and Steve might be able to chime in here and make a better suggestion.

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- Don Pomplun <BlueFlash@...> wrote:

> I haven't seen any mention of Smart Beaconing i.e.,
> Beaconing
> interval linked to velocity parameter from the GPS.
> I've been told
> (but not expended the effort to rigorously confirm)
> that a problem
> with SB, as implemented in TinyTrak is that as soon
> as you drop into
> the realm of less-frequent beaconing, it immediately
> sets he interval
> to the "infrequent rate". In my (real world)

> example, if the train is
> going faster than 1 mph, I beacon every minute;
> below that speed I
> consider it stopped, and switch to a 30 minute
> interval. The problem
> is that I don't get "one last beacon message" as I
> go from running to
> stopped. So in one message I'm going 25 mph, and
> suddenly I get
> nothing for 30 minutes. I reason that I should get
> an additional
> message as soon as I fall into the slower realm so I
> know it has
> happened. How is Rtrak handling this?
>
>
>

87. RTrak/OpenTracker Configuration Program

Yahoo group: RTrak
Date: 2008-01-17 03:14:29 UTC
From: Jason Rausch
Topic: 87 Message: 87

I wanted to provide a visual look at the RTrak version of the OpenTracker configuration program, so I took a couple snapshots and posted them in a new photo album. Please check the Photos section of the group and you will find a new album titled "Configuration Program".

Here is a quick link to the album:

http://ph.groups.yahoo.com/group/rtrak/photos/browse/3886

This should help my earlier description of the frequency table make more sense.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

88. Re: [rtrak] RTrak/OpenTracker Configuration Program

Yahoo group: RTrak
Date: 2008-01-17 13:52:43 UTC
From: Raymond Benedict
Topic: 87 Message: 88

Will you be at Dayton?

--- Jason Rausch <lists@...> wrote:

> I wanted to provide a visual look at the RTrak
> version of the
> OpenTracker configuration program, so I took a
> couple snapshots and
> posted them in a new photo album. Please check the
> Photos section of
> the group and you will find a new album titled
> "Configuration
> Program".
>
> Here is a quick link to the album:
>
>
http://ph.groups.yahoo.com/group/rtrak/photos/browse/3886
>
> This should help my earlier description of the
> frequency table make
> more sense.
>
> Thanks!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>

Never miss a thing. Make Yahoo your home page.
http://www.yahoo.com/r/hs

89. Re: [rtrak] RTrak/OpenTracker Configuration Program

Yahoo group: RTrak
Date: 2008-01-17 14:11:54 UTC
From: Jason Rausch
Topic: 87 Message: 89

--- Raymond Benedict <rcbenedict1545@...> wrote:

> Will you be at Dayton?

Yes, we will be there again this year.

We usually work the show with our friends Scott Miller
N1VG (Argent Data System - OpenTracker) and Jim Jarvis
KB0THN (APRS World, LLC).

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

>
>
> --- Jason Rausch <lists@...> wrote:
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> > I wanted to provide a visual look at the RTrak
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> > Here is a quick link to the album:
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> >
>
http://ph.groups.yahoo.com/group/rtrak/photos/browse/3886
> >
> > This should help my earlier description of the
> > frequency table make
> > more sense.
> >
> > Thanks!
> > Jason KE4NYV
> > RPC Electronics
> > www.rpc-electronics.com
> >
> >
>

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>

> Never miss a thing. Make Yahoo your home page.
> http://www.yahoo.com/r/hs
>

90. Re: [rtrak] RTrak/OpenTracker Configuration Program

Yahoo group: RTrak
Date: 2008-01-17 16:31:28 UTC
From: Scott Miller
Topic: 87 Message: 90

That reminds me, I haven't seen any mailing from the Dayton folks yet, even though they said to expect it by now. I'll have to check with them and make sure we get the same booths as last year - it was a good spot.

Anyone else notice that Dayton's website has gone all 1997 in their color scheme? At least the banner graphic isn't all squished this year.

Scott
N1VG

Jason Rausch wrote:
> --- Raymond Benedict <rcbenedict1545@...> wrote:
>
>> Will you be at Dayton?
>
> Yes, we will be there again this year.
>
> We usually work the show with our friends Scott Miller
> N1VG (Argent Data System - OpenTracker) and Jim Jarvis
> KB0THN (APRS World, LLC).
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>
>>
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>> --- Jason Rausch <lists@...> wrote:
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>> Never miss a thing. Make Yahoo your home page.
>> http://www.yahoo.com/r/hs
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> Yahoo! Groups Links
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91. Re: RTrak/OpenTracker Configuration Program

Yahoo group: RTrak
Date: 2008-01-18 00:34:26 UTC
From: Jason Rausch
Topic: 87 Message: 91

--- In rtrak@yahoogroups.com, Scott Miller <scott@...> wrote:

> Anyone else notice that Dayton's website has gone all 1997 in their
> color scheme? At least the banner graphic isn't all squished this
year.

I noticed that the other day. Takes me back to my first days of
playing with HTML and website "design" :o)

I tried to search my old Geocities url at archive.org, but nothing
came up. Must have ditched it after a number of years.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

>
> Scott
> N1VG
>
> Jason Rausch wrote:
> > --- Raymond Benedict <rcbenedict1545@...> wrote:
> >
> >> Will you be at Dayton?
> >
> > Yes, we will be there again this year.
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> > We usually work the show with our friends Scott Miller
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> > Yahoo! Groups Links
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92. RTrak Now Available for Order

Yahoo group: RTrak
Date: 2008-01-18 02:13:30 UTC
From: Jason Rausch
Topic: 92 Message: 92

RPC Electronics is happy to announce that we are
taking pre-orders for our brand new RTrak All-In-One

APRS tracker.

The RTrak is the first true all in one APRS tracking
device consisting of an internal GPS, 2M(VHF)
transmitter and APRS capable modem. The entire
package is built into a tough aluminum housing
123x78x27 mm (LxWxH) in size and weighing a total of
206g or 7.25oz. The connector end has a
professionally milled end panel with engraved labeling
that should prove to hold up to the harshest abuse.

The RTrak was designed around three important
elements:

1. OpenTracker APRS tracker - Scott Miller N1VG has
created a remarkable APRS tracker fitting in the
footprint of a standard 28 pin DIP package. This
micro version includes all of the functions of it's
larger, through-hole brother, minus the on-board
temperature sensor. Other included features are:
SmartBeaconing, Static Beacon Rates, Source Voltage
through on-board ADC (reportable in the comment
field), A whole host of profile switching options,
Timeslotting and many more.

2. SRB MX-146 2m Transmitter - A brand new company
called Small RF Budget has come out with a tiny,
wonderful 2m transmitter module that is bound to catch
on fast. This little module measures roughly 1x2
inches and provides 500mW of power. The transmitter
is programmable through an I2C bus for frequency
programming and control. The ability to change
frequency "On the fly" enables the RTrak to beacon on
dual frequencies, at dual rates. This is very useful
for trackers that need to beacon more often than
acceptable on the APRS network. The RTrak can be
setup to transmit at a normal rate on the main
frequency and more frequently on an alternate
frequency.

3. Trimble Copernicus GPS - This is the latest in
micro "stamp sized" GPS chipsets from Trimble
Navigation. This GPS is Sirf based and WILL work at

high altitudes. It has a fast cold start time of roughly 30 seconds from the time of power up.

The RTrak has two high quality, gold plated SMA connectors for the GPS and 2m radio antennas. We include everything that you need to get started. You only have to supply the 2m antenna of your choice. We suggest a 5/8 type of whip antenna for mobile operation. Supply power can be anywhere between 10-35VDC.

Here is what you get in the RTrak package:

RTrak APRS Tracker
Micro Magnetic GPS Patch Antenna
Programming Cable
Lighter Plug Power Cord
Paper Manual

Package Price: $250 + Shipping

Since this is a first run, we will be selling the first batch on a pre-order basis. When you order, your name and quantity ordered will be placed on our "Pending Orders" page. As we receive, fill and ship orders, we will update the page with the status. At any given time, you will be able to see what the status of your order is. Please allow at least six weeks for delivery. We will do our best to ship sooner.

If you would like to order, please visit the RTrak order page at:

http://www.rpc-electronics.com/trackers.php

We do accept all major credit cards and PayPal.

Please feel free to email us with questions.

Thank You!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

93. Re: RTrak Now Available for Order

Yahoo group: RTrak
Date: 2008-01-20 04:57:53 UTC
From: Jason Rausch
Topic: 92 Message: 93

A few additions to the order announcement:

The current pictures of the prototype on the main webpage are just that, pictures of a working prototype prototype. For example, the milling on the production units will NOT be done by hand. They will be professionally milled and engraved.

Several people have asked me about the included accesories, mostly what they look like. I will be taking some pictures tomorrow of everything and posting up on the webpage for everyone to view.

If anyone has questions, please feel free to ask here or email me directly at jason@...

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In rtrak@yahoogroups.com, Jason Rausch <lists@...> wrote:
>
> RPC Electronics is happy to announce that we are
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> called Small RF Budget has come out with a tiny,
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> 3. Trimble Copernicus GPS - This is the latest in
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> The RTrak has two high quality, gold plated SMA
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> only have to supply the 2m antenna of your choice. We
> suggest a 5/8 type of whip antenna for mobile
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> If you would like to order, please visit the RTrak
> order page at:
>
> http://www.rpc-electronics.com/trackers.php
>
> We do accept all major credit cards and PayPal.
>
> Please feel free to email us with questions.
>
> Thank You!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>

94. Real World RTrak Testing

Yahoo group: RTrak
Date: 2008-01-20 05:06:39 UTC
From: Jason Rausch
Topic: 94 Message: 94

Today, Shaena KI4UDD made a trip from Virginia Beach, VA to Roanoke, VA and she took along one of our prototype RTrak units. I have to first say that VA is not known for having a very good network of digipeaters, so it is generally tough to get a good track, even with a 50W transmitter. This is especially true on the route that she took.

We set up her car with nothing more than the RTrak, GPS patch antenna and a mag-mount 5/8 2M whip antenna. We enabled SmartBeaconing to help produce a more defined track.

Here is a link to her track across the state:

http://aprs.fi/?call=ki4udd-15&mt=m&z=11&timerange=3600

You will notice there are long lengths of time that packets did not get into the network, but you will also notice that they did get in at some key points of the trip. Roanoke, VA. has a very decent digipeater ran by FD K4FDS and it seems to hear very well. Once she was in town, the RTrak has no problem getting her beacons to the digipeater.

I hope this helps show that with a decent antenna and decent digi coverage, the RTrak can be very effective in working as a day to day tracker.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

95. Richmond Frostfest Hamfest - February 2, 2008

Yahoo group: RTrak
Date: 2008-01-20 05:11:24 UTC
From: Jason Rausch
Topic: 95 Message: 95

We want to let everyone know that we will be attending the up comming Richmond, VA. Frostfest Hamfest. We have a commercial table, but do not have a place assignment yet.

We will be taking orders for RTrak units as well selling all of our regular products. We will have ability to take credit card sales, so no cash is needed.

If you make it to the show, please stop by and say hi.

For other hamfests that we plan to attend this year, please check out "Hamfest Schedule" page:

http://www.rpc-electronics.com/hamfests.php

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

96. Re: [rtrak] Re: RTrak Now Available for Order

Yahoo group: RTrak
Date: 2008-01-29 19:42:56 UTC
From: Jon
Topic: 92 Message: 96

--- Jason Rausch <lists@...> wrote:

> A few additions to the order announcement:
>
> The current pictures of the prototype on the main
> webpage are just
> that, pictures of a working prototype prototype.
> For example, the
> milling on the production units will NOT be done by
> hand. They will
> be professionally milled and engraved.
>

Have I missed a post? I was wondering where I was in
the 'list'? Also, a few of us are thinking of heading
over to Dayton. Would be be possible to collect in
person (assuming its ready of course)?

Regards
de John
EI7IG

_____
Support the World Aids Awareness campaign this month with Yahoo! For Good
http://uk.promotions.yahoo.com/forgood/

97. Re: [rtrak] Re: RTrak Now Available for Order

Yahoo group: RTrak
Date: 2008-01-29 22:49:29 UTC
From: Jason Rausch
Topic: 92 Message: 97

--- Jon <c0j_1999@...> wrote:

> Would be be possible to collect in
> person (assuming its ready of course)?

Absolutely! We plan to start shipping well before Dayton, but if you order now and would like us to hold your order for Dayton pickup, we can do that.

This goes for anyone who wishes to order and then pickup at one of the hamfests that we will be attending. Please just let us know so we can have it there for you.

For those who missed the announcment: We are currently taking pre-orders on the RTrak. Please visit http://www.rpc-electronics.com/trackers.php to place an order.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

98. Google Earth built in flight simulator

Yahoo group: RTrak
Date: 2008-02-09 23:34:54 UTC
From: Andrew Rich
Topic: 98 Message: 98

```
Press Control - A

Awesome

Uses a joystick

-----------------------------------------------------------------------------
Andrew Rich VK4TEC
vk4tec@...
http://www.tech-software.net
```

99. Google Earth built in flight simulator

Yahoo group: RTrak
Date: 2008-02-09 23:53:11 UTC
From: Andrew Rich
Topic: 98 Message: 99

```
Press Control - A

Awesome

Uses a joystick

-----------------------------------------------------------------------------
Andrew Rich VK4TEC
vk4tec@...
http://www.tech-software.net
```

100. Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 13:25:53 UTC
From: Jason Rausch
Topic: 100 Message: 100

We are getting ready to order all parts for the current batch of RTrak orders. If you plan to order one, please get your order in by the end of this week so that you will be counted.

For more information on the RTrak, please visit:

http://www.rpc-electronics.com/trackers.php

The price is still $250 per package. The package includes the All-In-One APRS RTrak tracker, programming cable, power cable and GPS antenna.

Please visit the site for all details. If you have any questions, please feel free to email us and ask!

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

101. Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 15:32:12 UTC
From: kaf4472
Topic: 100 Message: 101

Hi Jason,

I'd like to order one this week by mailing a check, but I'm missing the shipping weight to calculate the full amount.

Mike W2AG

102. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 15:40:23 UTC
From: Jason Rausch
Topic: 100 Message: 102

Mike,

The shipping is a flat $10. Please make any checks
out to RPC Electronics c/o Jason Rausch.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- kaf4472 <Carmelink@...> wrote:

> Hi Jason,
>
> I'd like to order one this week by mailing a check,
> but I'm missing the
> shipping weight to calculate the full amount.
>
> Mike W2AG
>
>

103. Re: [rtrak] Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 15:50:56 UTC
From: Dennis Rogers
Topic: 100 Message: 103
Attachments: 2 described; binary payloads are missing from this source WARC

[Attachment content not displayed]

104. Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 19:17:37 UTC
From: Jim
Topic: 100 Message: 104

Jason, What will be the shipping cost to ship to Canada?

Thanks..

jim
VE7JSE

--- In rtrak@yahoogroups.com, Jason Rausch <lists@...> wrote:
>
> Mike,
>
> The shipping is a flat $10. Please make any checks
> out to RPC Electronics c/o Jason Rausch.
>
> Thanks!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
> --- kaf4472 <Carmelink@...> wrote:
>
> > Hi Jason,
> >
> > I'd like to order one this week by mailing a check,
> > but I'm missing the
> > shipping weight to calculate the full amount.
> >
> > Mike W2AG
> >
> >
>

105. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 20:40:24 UTC
From: Jason Rausch
Topic: 100 Message: 105

Jim,

The flat rate shipping is $10 to Canada.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- Jim <ve7jse@...> wrote:

> Jason, What will be the shipping cost to ship to
> Canada?
>
> Thanks..
>
> jim
> VE7JSE
>
> --- In rtrak@yahoogroups.com, Jason Rausch
> <lists@...> wrote:
> >
> > Mike,
> >
> > The shipping is a flat $10. Please make any
> checks
> > out to RPC Electronics c/o Jason Rausch.
> >
> > Thanks!
> > Jason KE4NYV
> > RPC Electronics
> > www.rpc-electronics.com
> >
> > --- kaf4472 <Carmelink@...> wrote:
> >
> > > Hi Jason,
> > >
> > > I'd like to order one this week by mailing a
> check,
> > > but I'm missing the
> > > shipping weight to calculate the full amount.
> > >
> > > Mike W2AG
> > >
> > >
> >

>
>
>

106. Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 21:04:51 UTC
From: Bob MacDonnell
Topic: 100 Message: 106

Shipping is cheap Jim, duty is outrageous!

Jason - I'm surprised that I can't find specs for the Rtrak on your group site. They could be left as a file to be downloaded.

For example, if the unit is left energized in a parked vehicle does it know it is not moving and therefore not tx, or at least tx very infrequently?
73 de bob in brisbane ve0rdm/vk4bdm/yj8dm

--- In rtrak@yahoogroups.com, Jason Rausch <lists@...> wrote:
>
> Jim,
>
> The flat rate shipping is $10 to Canada.
>
> Thanks!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>
> --- Jim <ve7jse@...> wrote:
>
> > Jason, What will be the shipping cost to ship to
> > Canada?
> >
> > Thanks..
> >
> > jim
> > VE7JSE
> >
> > --- In rtrak@yahoogroups.com, Jason Rausch
> > <lists@> wrote:
> > >
> > > Mike,
> > >
> > > The shipping is a flat $10. Please make any
> > checks
> > > out to RPC Electronics c/o Jason Rausch.
> > >
> > > Thanks!
> > > Jason KE4NYV
> > > RPC Electronics
> > > www.rpc-electronics.com
> > >

> > > --- kaf4472 <Carmelink@> wrote:
> > >
> > > > Hi Jason,
> > > >
> > > > I'd like to order one this week by mailing a
> > check,
> > > > but I'm missing the
> > > > shipping weight to calculate the full amount.
> > > >
> > > > Mike W2AG
> > > >
> > > >
> > >
> >
> >
>

107. Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-12 21:18:29 UTC
From: Jason Rausch
Topic: 100 Message: 107

--- In rtrak@yahoogroups.com, "Bob MacDonnell" <sv_siddiqi@...> wrote:
>
> Shipping is cheap Jim, duty is outrageous!

What is the current duty to Canada now?

>
> Jason - I'm surprised that I can't find specs for the Rtrak on your
> group site. They could be left as a file to be downloaded.

I'm sorry that I do not have anything in the group files yet. For the time being, I have been referring people to the RPC Electronics website for details. www.rpc-electronics.com/trackers.php

>
> For example, if the unit is left energized in a parked vehicle does
it
> know it is not moving and therefore not tx, or at least tx very
> infrequently?

Yes, by using SmartBeaconing, you can set a high rate, low rate and stop rate for beaconing. While moving the high rate and slow rate set the frequency of beacons based on your speed and heading. Once the vehicle comes to a stop and remains there, the beacon rate will be set to the stop rate. This is typically set to once every 30 minutes.

The RTrak uses the OpenTracker, so the OpenTracker SmartBeaconing defaults are shipped in the firmware. These can, of course, be changed to your liking, but the defaults tend to fall in line with a fairly conservative beacon rate. SmartBeaconing will also do CornerPegging. It constantly watches the GPS heading, looking for a drastic change. When it sees this, it assumes you are either going around a large curve or corner, thus chnaging heading/course and beacons to make that change.

Hope that clears things up.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

> 73 de bob in brisbane ve0rdm/vk4bdm/yj8dm
>
> --- In rtrak@yahoogroups.com, Jason Rausch <lists@> wrote:
> >

> > Jim,
> >
> > The flat rate shipping is $10 to Canada.
> >
> > Thanks!
> > Jason KE4NYV
> > RPC Electronics
> > www.rpc-electronics.com
> >
> >
> > --- Jim <ve7jse@> wrote:
> >
> > > Jason, What will be the shipping cost to ship to
> > > Canada?
> > >
> > > Thanks..
> > >
> > > jim
> > > VE7JSE
> > >
> > > --- In rtrak@yahoogroups.com, Jason Rausch
> > > <lists@> wrote:
> > > >
> > > > Mike,
> > > >
> > > > The shipping is a flat $10. Please make any
> > > checks
> > > > out to RPC Electronics c/o Jason Rausch.
> > > >
> > > > Thanks!
> > > > Jason KE4NYV
> > > > RPC Electronics
> > > > www.rpc-electronics.com
> > > >
> > > > --- kaf4472 <Carmelink@> wrote:
> > > >
> > > > > Hi Jason,
> > > > >
> > > > > I'd like to order one this week by mailing a
> > > check,
> > > > > but I'm missing the
> > > > > shipping weight to calculate the full amount.
> > > > >
> > > > > Mike W2AG
> > > > >
> > > > >
> > > >
> > >
> > >
> > >

> >
>

108. Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-13 10:00:26 UTC
From: Bob MacDonnell
Topic: 100 Message: 108

Thanks Jason. Sounds like the smart beaconing used by TinyTrak3 which
works well.
Bob M

--- In rtrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> --- In rtrak@yahoogroups.com, "Bob MacDonnell" <sv_siddiqi@> wrote:
...
> > Jason - I'm surprised that I can't find specs for the Rtrak on your
> > group site. They could be left as a file to be downloaded.
>
> I'm sorry that I do not have anything in the group files yet. For
> the time being, I have been referring people to the RPC Electronics
> website for details. www.rpc-electronics.com/trackers.php
>
> >
> > For example, if the unit is left energized in a parked vehicle does
> it
> > know it is not moving and therefore not tx, or at least tx very
> > infrequently?
>
> Yes, by using SmartBeaconing, you can set a high rate, low rate and
> stop rate for beaconing. While moving the high rate and slow rate
> set the frequency of beacons based on your speed and heading. Once
> the vehicle comes to a stop and remains there, the beacon rate will
> be set to the stop rate. This is typically set to once every 30
> minutes.
>
> The RTrak uses the OpenTracker, so the OpenTracker SmartBeaconing
> defaults are shipped in the firmware. These can, of course, be
> changed to your liking, but the defaults tend to fall in line with a
> fairly conservative beacon rate. SmartBeaconing will also do
> CornerPegging. It constantly watches the GPS heading, looking for a
> drastic change. When it sees this, it assumes you are either going
> around a large curve or corner, thus chnaging heading/course and
> beacons to make that change.
>
> Hope that clears things up.
>
> Thanks!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>

109. Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-13 14:07:12 UTC
From: RobertCGRO
Topic: 100 Message: 109

FYI

Thanks to NAFTA, amateur radio products have no "duty" shipped between the US and Canada. However, crossing the border you still have to pay the appropriate GST 5% and applicable PST which varies across the country. The federal gov't has agreed to collect these taes for the provinces. Canada Post will also charge a small broker fee (around $8) which is much, much less than what UPS/DHL/Fedex charges.

Canadians receiving transborder mail shipments are only allowed a $20 Canadian tax exemption before having to pay taxes. For the U.S. consumer, it's $200 USD.

As long as the outside of the package is clearly marked "AMATEUR RADIO ELECTRONICS." (You can also throw in "MADE IN U.S.A. for added emphasis.) even a dozy customs officer knows the NAFTA rules on such products. Ditto for many countries around the world, but you have to check with your customs and explicity ask. Usually all the info in on web pages these days, but nothing is better than a tete-a-tete with a flesh and blood person.

Robert, VA3ROM
http://my.tbaytel.net/va3rom

--- In rtrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> --- In rtrak@yahoogroups.com, "Bob MacDonnell" <sv_siddiqi@> wrote:
> >
> > Shipping is cheap Jim, duty is outrageous!
>
> What is the current duty to Canada now?
>
> >

110. Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 15:14:27 UTC
From: Joel Maslak
Topic: 110 Message: 110

I just put my order in for one of these nifty RTraks. I'll probably end up putting in for another one in a couple of months, too, as I can see *tons* of uses for this thing.

I'm going to mount the first one in my RV trailer. With that in mind, I have a few questions:

1. Are temperatures that it experiences in an RV trailer, stored outside, in Wyoming, going to be an issue? I'd prefer to leave the thing running all the time in the RV, since I think the current draw will be low enough that I can get away with that and a low beacon rate. (the RV has 60W solar panels, so I'm not worried about battery life)

2. It looks like it is possible to hook up a thermistor and a couple resistors in a voltage divider configuration to get this to measure temperature. I'll probably have to drill a couple holes in the case and mount some sort of jacks for the A/D inputs, right? Does anyone here have recommendations on thermistor and resistor values for this? I'll be measuring temperatures from 0F through 120F. The internal temperature sensor isn't quite enough for my needs.

I'm planning on using the device for telemetry primarily, although knowing that my RV is where I left it will always be a good thing too, as it is usually in a remote storage lot. The telemetry will be the built-in temp sensor, voltage sensor (I'm assuming it has both of these), two external temperature probes, and an A/C line voltage "yes/no" signal. The two temperature sensors would be one in the living space of the RV to watch the temperature (sometimes a dog is left inside by herself, with the RV heat or cooling left on) and one mounted outside to warn me that my holding tank will freeze if I don't dump it soon. The A/C line voltage signal will let me know that there is a power problem of some kind and to go check on my rig if I expect it to have line voltage.

I'm thinking a couple of APRS-IS applications to do this. The first one would let me define a geographic "fence" around the storage lot, and when APRS-IS gets packets that indicate it moved outside the lot, send an SMS text message to my phone. Temperature warnings will do something similar - giving me enough warning to get back to the trailer and do whatever is needed to keep the dog safe and the tanks from freezing.

But I'm definitely very weak at analog electronics, so any suggestions people have would be cool. I'd love to start gathering parts while I wait for this cool device to be assembled and shipped.

--
Joel Maslak
N7XUC

111. Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-13 15:35:17 UTC
From: Jason Rausch
Topic: 100 Message: 111

Robert,

Thanks for the information! I am going to see if I can source some
nice "Made in USA" stickers locally that I can stick on the shipping
boxes.

In the US and Canada, I have never had any problem marking the box as
Amateur Radio contents, but when it come to overseas I have always
been a little weary. I don't exactly know the radio laws in other
countries and I would hate for a package to be seized instead of
making it to the buyer.

Does anyone know of any countries to watch out for, as far as making
the box look as plain as possible?

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In rtrak@yahoogroups.com, "RobertCGRO" <robertcgro@...> wrote:
>
> FYI
>
> Thanks to NAFTA, amateur radio products have no "duty" shipped
> between the US and Canada. However, crossing the border you still
> have to pay the appropriate GST 5% and applicable PST which varies
> across the country. The federal gov't has agreed to collect these
> taes for the provinces. Canada Post will also charge a small broker
> fee (around $8) which is much, much less than what UPS/DHL/Fedex
> charges.
>
> Canadians receiving transborder mail shipments are only allowed a
$20
> Canadian tax exemption before having to pay taxes. For the U.S.
> consumer, it's $200 USD.
>
> As long as the outside of the package is clearly marked "AMATEUR
> RADIO ELECTRONICS." (You can also throw in "MADE IN U.S.A. for
added
> emphasis.) even a dozy customs officer knows the NAFTA rules on
such
> products. Ditto for many countries around the world, but you have
to
> check with your customs and explicity ask. Usually all the info in
on
> web pages these days, but nothing is better than a tete-a-tete with

a
> flesh and blood person.
>
> Robert, VA3ROM
> http://my.tbaytel.net/va3rom
>
>
> --- In rtrak@yahoogroups.com, "Jason Rausch" <lists@> wrote:
> >
> > --- In rtrak@yahoogroups.com, "Bob MacDonnell" <sv_siddiqi@>
wrote:
> > >
> > > Shipping is cheap Jim, duty is outrageous!
> >
> > What is the current duty to Canada now?
> >
> > >
>

112. Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 15:46:32 UTC
From: Jason Rausch
Topic: 110 Message: 112

--- In rtrak@yahoogroups.com, Joel Maslak <jmaslak@...> wrote:
>
> I just put my order in for one of these nifty RTraks. I'll
probably
> end up putting in for another one in a couple of months, too, as I
> can see *tons* of uses for this thing.

Thank you for the order, Joel!

> 1. Are temperatures that it experiences in an RV trailer, stored
> outside, in Wyoming, going to be an issue? I'd prefer to leave
the
> thing running all the time in the RV, since I think the current
draw
> will be low enough that I can get away with that and a low beacon
> rate. (the RV has 60W solar panels, so I'm not worried about
battery
> life)

Here in Virginia Beach, VA. we have been having some wild
temperature fluctuations. One day we have sub 30F and then the next
close to 80F! During that time, Shaena KI4UDD has been running her
beta RTrak in her car and so far we have not noticed any problems.

One of the neatest features of the SRB MX-146 transmitter we used is
that it has onboard temp control and uses that to adjust it'self, to
stay on frequency.

>
> 2. It looks like it is possible to hook up a thermistor and a
couple
> resistors in a voltage divider configuration to get this to
measure
> temperature. I'll probably have to drill a couple holes in the
case
> and mount some sort of jacks for the A/D inputs, right?

Yes, I beleive that would work just fine, but I am not the best guy
to ask when it comes to this kind of analog electronics.

> Does anyone
> here have recommendations on thermistor and resistor values for
> this? I'll be measuring temperatures from 0F through 120F. The
> internal temperature sensor isn't quite enough for my needs.

Scott? Any suggestions here?

>
> I'm planning on using the device for telemetry primarily, although
> knowing that my RV is where I left it will always be a good thing
> too, as it is usually in a remote storage lot. The telemetry will
be
> the built-in temp sensor, voltage sensor (I'm assuming it has both
of
> these), two external temperature probes, and an A/C line voltage
"yes/
> no" signal.

Actually, the SMT version of the OpenTracker used in the RTrak does
NOT have the onboard temp sensor but DOES have the voltage input
ADC. In fact, in one of the revisions, I noticed that the voltage
ADC showed a constant 5VDC level. When I checked with Scott he said
that I had to run the input voltage through the onboard 7805
regulator instead of sending the offboard 5V directly to the
OpenTracker. In the next revision, I changed this so the OpenTracker
fully supports the unit's source voltage input.

> The two temperature sensors would be one in the
living
> space of the RV to watch the temperature (sometimes a dog is left
> inside by herself, with the RV heat or cooling left on) and one
> mounted outside to warn me that my holding tank will freeze if I
> don't dump it soon. The A/C line voltage signal will let me know
> that there is a power problem of some kind and to go check on my
rig
> if I expect it to have line voltage.

This sounds really cool! I can't wait to see this up and working.

>
> I'm thinking a couple of APRS-IS applications to do this. The
first
> one would let me define a geographic "fence" around the storage
lot,
> and when APRS-IS gets packets that indicate it moved outside the
lot,
> send an SMS text message to my phone. Temperature warnings will
do
> something similar - giving me enough warning to get back to the
> trailer and do whatever is needed to keep the dog safe and the
tanks
> from freezing.

I think XASTIR can be set for somthing like this, but I do not know
enough about it yet to do this. I'm not sure about UI-View or
WinAPRS.

>
> But I'm definitely very weak at analog electronics, so any
> suggestions people have would be cool. I'd love to start

gathering
> parts while I wait for this cool device to be assembled and shipped.

I'm not strong in analog, but I'm sure someone here can give you some
good tips.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

113. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-13 15:52:14 UTC
From: Patrick
Topic: 100 Message: 113

Well, besides keeping the loose wires and white powder inside the box, and making sure that its RoHS compliant, I'd figure that the best people to ensure the restrictions of what's coming to them would be the international people ordering.. So for first time orders to a country get them to confirm that they don't require special clearances..

Lets face it, if you're ordering a 250$ item like the rtrak, its usually not going to be the first thing you've ordered online so most likely you've done it before and know at least a little what goes into the process, and what are definate no-no's..

Patrick

On Wed, 13 Feb 2008 15:35:17 -0000, Jason Rausch wrote
> Robert,
>
> Thanks for the information! I am going to see if I can source some
> nice "Made in USA" stickers locally that I can stick on the shipping
> boxes.
>
> In the US and Canada, I have never had any problem marking the box as
> Amateur Radio contents, but when it come to overseas I have always
> been a little weary. I don't exactly know the radio laws in other
> countries and I would hate for a package to be seized instead of
> making it to the buyer.
>
> Does anyone know of any countries to watch out for, as far as making
> the box look as plain as possible?
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
> --- In rtrak@yahoogroups.com, "RobertCGRO" <robertcgro@...> wrote:
> >
> > FYI
> >
> > Thanks to NAFTA, amateur radio products have no "duty" shipped
> > between the US and Canada. However, crossing the border you still
> > have to pay the appropriate GST 5% and applicable PST which varies
> > across the country. The federal gov't has agreed to collect these
> > taes for the provinces. Canada Post will also charge a small broker
> > fee (around $8) which is much, much less than what UPS/DHL/Fedex
> > charges.
> >
> > Canadians receiving transborder mail shipments are only allowed a
> $20
> > Canadian tax exemption before having to pay taxes. For the U.S.

> > consumer, it's $200 USD.
> >
> > As long as the outside of the package is clearly marked "AMATEUR
> > RADIO ELECTRONICS." (You can also throw in "MADE IN U.S.A. for
> added
> > emphasis.) even a dozy customs officer knows the NAFTA rules on
> such
> > products. Ditto for many countries around the world, but you have
> to
> > check with your customs and explicity ask. Usually all the info in
> on
> > web pages these days, but nothing is better than a tete-a-tete with
> a
> > flesh and blood person.
> >
> > Robert, VA3ROM
> > http://my.tbaytel.net/va3rom
> >
> >
> > --- In rtrak@yahoogroups.com, "Jason Rausch" <lists@> wrote:
> > >
> > > --- In rtrak@yahoogroups.com, "Bob MacDonnell" <sv_siddiqi@>
> wrote:
> > > >
> > > > Shipping is cheap Jim, duty is outrageous!
> > >
> > > What is the current duty to Canada now?
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> > > >
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>
> Yahoo! Groups Links
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>

114. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 15:55:03 UTC
From: Scott Miller
Topic: 110 Message: 114

>> Does anyone
>> here have recommendations on thermistor and resistor values for
>> this? I'll be measuring temperatures from 0F through 120F. The
>> internal temperature sensor isn't quite enough for my needs.
>
> Scott? Any suggestions here?

I haven't seen the final RTrak schematic. Does it include an LM335Z itself?

The OT1+ v1.5 board in the RTrak has a connection that you can use for
an LM335Z temperature sensor. It's a TO92 package, like a small
transistor. Best way to mount it is probably to use a length of
adhesive-lined heat-shrink tubing. You just need a 2-conductor wire.
Oh yeah, the OT1+ SMT doesn't have the current limiting resistor, so
you'll need to add that - 6.2k or 6.8k is what I've always used. 10k is
too high to be reliable, 4.7k is too low and causes self-heating.

See the LM335Z datasheet for information on hooking it up and remoting it.

Scott
N1VG

115. Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 15:54:25 UTC
From: Dan Dawson
Topic: 110 Message: 115

On Feb 13, 2008, at 7:14 AM, Joel Maslak wrote:
> 2. It looks like it is possible to hook up a thermistor
> and a couple resistors in a voltage divider configuration
> to get this to measure temperature.

I just ordered one of these for measuring temperature:

http://www.sparkfun.com/commerce/product_info.php?products_id=245

Description: This is the latest DS18B20 1-Wire digital temperature
sensor from Maxim IC. Reports degrees C with 9 to 12-bit precision,
-55C to 125C (+/-0.5C) (☐67°F to +257°F). Each sensor has a unique
64-Bit Serial number etched into it - allows for a huge number of
sensors to be used on one data bus. This is a wonderful part that is
the corner stone of many data-logging and temperature control projects.

All that and the thing only costs $4.25 :-) My goal is to see if I
can get it running with an Arduino board: http://arduino.cc/

116. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-13 16:01:45 UTC
From: Scott Miller
Topic: 100 Message: 116

If you check the mailing instructions that the post office provides online (I think it'll say when you're doing online postage), it'll tell you what's prohibited and restricted.

Commercial radio gear is restricted in some places, so that's another reason to make sure it's listed as amateur. I also add 'kit' to the description whenever applicable.

Shipping in bubble mailers seems to attract less attention than boxes, but I'm not sure if the RTrak will fit.

Oh, and I've been told that for countries with high mail theft, insuring a package, even for a small amount, can help - apparently insured mail has different standards for tracking and accountability.

Scott
N1VG

Patrick wrote:
> Well, besides keeping the loose wires and white powder inside the box, and making sure
> that its RoHS compliant, I'd figure that the best people to ensure the restrictions of
> what's coming to them would be the international people ordering.. So for first time
> orders to a country get them to confirm that they don't require special clearances..
>
> Lets face it, if you're ordering a 250$ item like the rtrak, its usually not going to be
> the first thing you've ordered online so most likely you've done it before and know at
> least a little what goes into the process, and what are definate no-no's..
>
> Patrick
>
> On Wed, 13 Feb 2008 15:35:17 -0000, Jason Rausch wrote
>> Robert,
>>
>> Thanks for the information! I am going to see if I can source some
>> nice "Made in USA" stickers locally that I can stick on the shipping
>> boxes.
>>
>> In the US and Canada, I have never had any problem marking the box as
>> Amateur Radio contents, but when it come to overseas I have always
>> been a little weary. I don't exactly know the radio laws in other
>> countries and I would hate for a package to be seized instead of
>> making it to the buyer.
>>
>> Does anyone know of any countries to watch out for, as far as making
>> the box look as plain as possible?
>>

>> Jason KE4NYV
>> RPC Electronics
>> www.rpc-electronics.com
>>
>> --- In rtrak@yahoogroups.com, "RobertCGRO" <robertcgro@...> wrote:
>> >
>> > FYI
>> >
>> > Thanks to NAFTA, amateur radio products have no "duty" shipped
>> > between the US and Canada. However, crossing the border you still
>> > have to pay the appropriate GST 5% and applicable PST which varies
>> > across the country. The federal gov't has agreed to collect these
>> > taes for the provinces. Canada Post will also charge a small broker
>> > fee (around $8) which is much, much less than what UPS/DHL/Fedex
>> > charges.
>> >
>> > Canadians receiving transborder mail shipments are only allowed a
>> $20
>> > Canadian tax exemption before having to pay taxes. For the U.S.
>> > consumer, it's $200 USD.
>> >
>> > As long as the outside of the package is clearly marked "AMATEUR
>> > RADIO ELECTRONICS." (You can also throw in "MADE IN U.S.A. for
>> added
>> > emphasis.) even a dozy customs officer knows the NAFTA rules on
>> such
>> > products. Ditto for many countries around the world, but you have
>> to
>> > check with your customs and explicity ask. Usually all the info in
>> on
>> > web pages these days, but nothing is better than a tete-a-tete with
>> a
>> > flesh and blood person.
>> >
>> > Robert, VA3ROM
>> > http://my.tbaytel.net/va3rom
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>> > --- In rtrak@yahoogroups.com, "Jason Rausch" <lists@> wrote:
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>> Yahoo! Groups Links
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117. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 16:03:35 UTC
From: Scott Miller
Topic: 110 Message: 117

There's actually OpenTracker code for reading that sensor, but it's only used in the weather station firmware right now. I've had requests in the past to integrate it with the tracking firmware, but squeezing it in there would probably require ripping out some other code.

If you're interested, you can check out the source code repository at http://www.argentdata.com/community

Scott
N1VG

Dan Dawson wrote:
> On Feb 13, 2008, at 7:14 AM, Joel Maslak wrote:
>> 2. It looks like it is possible to hook up a thermistor
>> and a couple resistors in a voltage divider configuration
>> to get this to measure temperature.
>
> I just ordered one of these for measuring temperature:
>
> http://www.sparkfun.com/commerce/product_info.php?products_id=245
>
> Description: This is the latest DS18B20 1-Wire digital temperature
> sensor from Maxim IC. Reports degrees C with 9 to 12-bit precision,
> -55C to 125C (+/-0.5C) (?67?F to +257?F). Each sensor has a unique
> 64-Bit Serial number etched into it - allows for a huge number of
> sensors to be used on one data bus. This is a wonderful part that is
> the corner stone of many data-logging and temperature control projects.
>
> All that and the thing only costs $4.25 :-) My goal is to see if I
> can get it running with an Arduino board: http://arduino.cc/
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118. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-13 16:04:15 UTC
From: Scott Miller
Topic: 100 Message: 118

> Thanks for the information! I am going to see if I can source some
> nice "Made in USA" stickers locally that I can stick on the shipping
> boxes.

I think I've got a source for those in China. =]

> In the US and Canada, I have never had any problem marking the box as
> Amateur Radio contents, but when it come to overseas I have always
> been a little weary. I don't exactly know the radio laws in other
> countries and I would hate for a package to be seized instead of
> making it to the buyer.

I've had people in the UK and other places tell me specifically to mark
it as amateur radio equipment (I use HS code 852990) to make it clear
that it's exempt from duties.

> Does anyone know of any countries to watch out for, as far as making
> the box look as plain as possible?

I think it's important to be as accurate as possible in the description
- otherwise you risk having it delayed if it doesn't match.

My worst countries for shipping are probably Portugal and Argentina.
Brazil's up there too, Indonesia's questionable but I haven't had enough
orders for a statistically significant sample.

Scott
N1VG

119. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-13 19:41:09 UTC
From: Jon
Topic: 100 Message: 119

For Ireland, if it's over a certain value (which I
must check again).. its about ?100 euro. You get hit
for duty no matter what.

However Scott's OT2's always make it through :)

de
John
EI7IG

--- Jason Rausch <lists@...> wrote:

> Robert,
>
> Thanks for the information! I am going to see if I
> can source some
> nice "Made in USA" stickers locally that I can stick
> on the shipping
> boxes.
>
> In the US and Canada, I have never had any problem
> marking the box as
> Amateur Radio contents, but when it come to overseas
> I have always
> been a little weary. I don't exactly know the radio
> laws in other
> countries and I would hate for a package to be
> seized instead of
> making it to the buyer.
>
> Does anyone know of any countries to watch out for,
> as far as making
> the box look as plain as possible?
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
> --- In rtrak@yahoogroups.com, "RobertCGRO"
> <robertcgro@...> wrote:
> >
> > FYI
> >
> > Thanks to NAFTA, amateur radio products have no
> "duty" shipped
> > between the US and Canada. However, crossing the

> border you still
> > have to pay the appropriate GST 5% and applicable
> PST which varies
> > across the country. The federal gov't has agreed
> to collect these
> > taes for the provinces. Canada Post will also
> charge a small broker
> > fee (around $8) which is much, much less than what
> UPS/DHL/Fedex
> > charges.
> >
> > Canadians receiving transborder mail shipments are
> only allowed a
> $20
> > Canadian tax exemption before having to pay taxes.
> For the U.S.
> > consumer, it's $200 USD.
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> > As long as the outside of the package is clearly
> marked "AMATEUR
> > RADIO ELECTRONICS." (You can also throw in "MADE
> IN U.S.A. for
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> > emphasis.) even a dozy customs officer knows the
> NAFTA rules on
> such
> > products. Ditto for many countries around the
> world, but you have
> to
> > check with your customs and explicity ask. Usually
> all the info in
> on
> > web pages these days, but nothing is better than a
> tete-a-tete with
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> > flesh and blood person.
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> > Robert, VA3ROM
> > http://my.tbaytel.net/va3rom
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> > --- In rtrak@yahoogroups.com, "Jason Rausch"
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> > > > Shipping is cheap Jim, duty is outrageous!
> > >

> > > What is the current duty to Canada now?
> > >
> > > >
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>

Sent from Yahoo! Mail - a smarter inbox http://uk.mail.yahoo.com

120. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 19:47:08 UTC
From: Joel Maslak
Topic: 110 Message: 120

On Feb 13, 2008, at 8:46 AM, Jason Rausch wrote:

> Here in Virginia Beach, VA. we have been having some wild
> temperature fluctuations. One day we have sub 30F and then the next
> close to 80F! During that time, Shaena KI4UDD has been running her
> beta RTrak in her car and so far we have not noticed any problems.
>

I'm not too worried about the fluxuations, more the really cold. Sub
30F isn't cold to us here. :)

> One of the neatest features of the SRB MX-146 transmitter we used is
> that it has onboard temp control and uses that to adjust it'self, to
> stay on frequency.
>

That is cool.

> Actually, the SMT version of the OpenTracker used in the RTrak does
> NOT have the onboard temp sensor but DOES have the voltage input
> ADC. In fact, in one of the revisions, I noticed that the voltage
> ADC showed a constant 5VDC level. When I checked with Scott he said
> that I had to run the input voltage through the onboard 7805
> regulator instead of sending the offboard 5V directly to the
> OpenTracker. In the next revision, I changed this so the OpenTracker
> fully supports the unit's source voltage input.
>

I can live without the onboard temp sensor (it wouldn't tell me
anything useful where I was going to put the RTrak). But the voltage
is a pretty important measurement - knowing battery charge is useful
for all sorts of things.

> > The two temperature sensors would be one in the
> living
> > space of the RV to watch the temperature (sometimes a dog is left
> > inside by herself, with the RV heat or cooling left on) and one
> > mounted outside to warn me that my holding tank will freeze if I
> > don't dump it soon. The A/C line voltage signal will let me know
> > that there is a power problem of some kind and to go check on my
> rig
> > if I expect it to have line voltage.
>
> This sounds really cool! I can't wait to see this up and working.
>

I'll take pictures when it is done. Some of it will have to wait
until the weather is suitable for the outside work I have to do on
the trailer. But it will be a neat project I think and it will make
me feel like I'm still a little bit of a ham if I have to solder a
few connectors up. :)

> > I'm thinking a couple of APRS-IS applications to do this. The
> first
> > one would let me define a geographic "fence" around the storage
> lot,
> > and when APRS-IS gets packets that indicate it moved outside the
> lot,
> > send an SMS text message to my phone. Temperature warnings will
> do
> > something similar - giving me enough warning to get back to the
> > trailer and do whatever is needed to keep the dog safe and the
> tanks
> > from freezing.
>
> I think XASTIR can be set for somthing like this, but I do not know
> enough about it yet to do this. I'm not sure about UI-View or
> WinAPRS.
>

It's 20 minutes of my time using Perl, so I am just going to do it
that way. :)

> > But I'm definitely very weak at analog electronics, so any
> > suggestions people have would be cool. I'd love to start
> gathering
> > parts while I wait for this cool device to be assembled and shipped.
>
> I'm not strong in analog, but I'm sure someone here can give you some
> good tips.
>

I've already got some - the APRS experimentation community has to be
one of the friendliest and most helpful groups in ham radio!

121. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 18:51:57 UTC
From: Joel Maslak
Topic: 110 Message: 121

On Feb 13, 2008, at 8:55 AM, Scott Miller wrote:

> >> Does anyone
> >> here have recommendations on thermistor and resistor values for
> >> this? I'll be measuring temperatures from 0F through 120F. The
> >> internal temperature sensor isn't quite enough for my needs.
> >
> > Scott? Any suggestions here?
>
> I haven't seen the final RTrak schematic. Does it include an LM335Z
> itself?
>
> The OT1+ v1.5 board in the RTrak has a connection that you can use for
> an LM335Z temperature sensor. It's a TO92 package, like a small
> transistor. Best way to mount it is probably to use a length of
> adhesive-lined heat-shrink tubing. You just need a 2-conductor wire.
> Oh yeah, the OT1+ SMT doesn't have the current limiting resistor, so
> you'll need to add that - 6.2k or 6.8k is what I've always used.
> 10k is
> too high to be reliable, 4.7k is too low and causes self-heating.
>

Cool - that looks like exactly what I am needing. I like the idea of
a linear curve, unlike the thermistors I was looking at. You mention
a place on the board for connecting the LM335Z. Will this also work
on the A->D input okay or will the voltage be too low to get an
accurate measurement by without some additional circuitry?

122. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-13 20:01:26 UTC
From: Scott Miller
Topic: 100 Message: 122

Now if I could just get my shopping cart system to stop requiring post codes and states!

I always get a kick out of the Irish mailing addresses. Apparently listing a county and a town is good enough to get it to the addressee in some places! No need for pesky street numbers or anything. =]

To be fair, in small towns in the US that might work too if it gets as far as the local post office, but that's not likely to happen if you don't include a valid ZIP code.

Scott
N1VG

Jon wrote:
> For Ireland, if it's over a certain value (which I
> must check again).. its about ?100 euro. You get hit
> for duty no matter what.
>
> However Scott's OT2's always make it through :)
>
> de
> John
> EI7IG
>
> --- Jason Rausch <lists@...> wrote:
>
>> Robert,
>>
>> Thanks for the information! I am going to see if I
>> can source some
>> nice "Made in USA" stickers locally that I can stick
>> on the shipping
>> boxes.
>>
>> In the US and Canada, I have never had any problem
>> marking the box as
>> Amateur Radio contents, but when it come to overseas
>> I have always
>> been a little weary. I don't exactly know the radio
>> laws in other
>> countries and I would hate for a package to be
>> seized instead of
>> making it to the buyer.
>>
>> Does anyone know of any countries to watch out for,

>> as far as making
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>>
>> Jason KE4NYV
>> RPC Electronics
>> www.rpc-electronics.com
>>
>> --- In rtrak@yahoogroups.com, "RobertCGRO"
>> <robertcgro@...> wrote:
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>> > FYI
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>> > Thanks to NAFTA, amateur radio products have no
>> "duty" shipped
>> > between the US and Canada. However, crossing the
>> border you still
>> > have to pay the appropriate GST 5% and applicable
>> PST which varies
>> > across the country. The federal gov't has agreed
>> to collect these
>> > taes for the provinces. Canada Post will also
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>> > charges.
>> >
>> > Canadians receiving transborder mail shipments are
>> only allowed a
>> $20
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>> For the U.S.
>> > consumer, it's $200 USD.
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>> > As long as the outside of the package is clearly
>> marked "AMATEUR
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>> IN U.S.A. for
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>> > products. Ditto for many countries around the
>> world, but you have
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>> > check with your customs and explicity ask. Usually
>> all the info in
>> on
>> > web pages these days, but nothing is better than a
>> tete-a-tete with
>> a

>> > flesh and blood person.
>> >
>> > Robert, VA3ROM
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>> > --- In rtrak@yahoogroups.com, "Jason Rausch"
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> _____
> Sent from Yahoo! Mail - a smarter inbox http://uk.mail.yahoo.com
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123. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 20:08:20 UTC
From: Scott Miller
Topic: 110 Message: 123

> I've already got some - the APRS experimentation community has to be
> one of the friendliest and most helpful groups in ham radio!

I think that's probably true, as long as you stay out of the eHam forums! Seems like a lot of curmudgeons like to hang out there and complain about anything that's been done with the hobby since about 1965.

I think there really needs to be some ham radio evangelism targeting the Linux and open source communities. Ham radio is what the same types of people did BEFORE there were computers, and it's still relevant. We've got companies bidding billions of dollars for radio spectrum right now, and us hams get our spectrum for free, with relatively few restrictions on what we do with it. If the hobby's going to survive another 20 years, it needs a major infusion of new blood.

I did post a challenge to Slashdot a few months ago that I think resulted in a few people taking the test, and I gave out a number of free OpenTracker+ kits, but I haven't had the time to organize anything beyond that.

Scott
N1VG

124. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 20:11:30 UTC
From: Scott Miller
Topic: 110 Message: 124

> Cool - that looks like exactly what I am needing. I like the idea of
> a linear curve, unlike the thermistors I was looking at. You mention

Wouldn't a 'linear curve' be a line? =] But yes, the sensors are very linear over their rated range.

> a place on the board for connecting the LM335Z. Will this also work
> on the A->D input okay or will the voltage be too low to get an
> accurate measurement by without some additional circuitry?

The OT1+ v1.5 board has the ADC pin that's programmed for temperature conversion brought out to one of the pins. I don't know if the newest RTrak puts that signal anywhere useful, or if you'd have to wire directly to the OT1+ board. In any case, all of the ADC pins are identical, and any of them would work with the LM335Z with no buffering or anything, but to get the temperature reading you'd have to change a macro in the source code to define which ADC has the sensor.

Scott
N1VG

125. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 20:44:27 UTC
From: Jason Rausch
Topic: 110 Message: 125

--- Scott Miller <scott@...> wrote:

> The OT1+ v1.5 board has the ADC pin that's
> programmed for temperature
> conversion brought out to one of the pins. I don't
> know if the newest
> RTrak puts that signal anywhere useful, or if you'd
> have to wire
> directly to the OT1+ board. In any case, all of the
> ADC pins are
> identical, and any of them would work with the
> LM335Z with no buffering
> or anything, but to get the temperature reading
> you'd have to change a
> macro in the source code to define which ADC has the
> sensor.

All of the ADC pins are brought out to the 2 row pin
header along the opposite end of the of the
connections end. Keep in mind, in the RTrak, four of
these lines are actually tied to the HEX selector
switch for frequency control in normal tracking modes.
I beleive there are 10 total ADCs, so that leaves 6
more for experimenting, while retaining the frequency
control lines from the selector switch.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

126. Re: [rtrak] Re: Temperature Sensors?

Yahoo group: RTrak
Date: 2008-02-13 20:52:49 UTC
From: Joel Maslak
Topic: 110 Message: 126

On Feb 13, 2008, at 1:44 PM, Jason Rausch wrote:

> All of the ADC pins are brought out to the 2 row pin
> header along the opposite end of the of the
> connections end. Keep in mind, in the RTrak, four of
> these lines are actually tied to the HEX selector
> switch for frequency control in normal tracking modes.
> I beleive there are 10 total ADCs, so that leaves 6
> more for experimenting, while retaining the frequency
> control lines from the selector switch.
>

Okay, cool. :)

127. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-14 09:14:19 UTC
From: Jon
Topic: 100 Message: 127

>
> I always get a kick out of the Irish mailing
> addresses. Apparently
> listing a county and a town is good enough to get it
> to the addressee in
> some places! No need for pesky street numbers or
> anything. =]
My dad once received mail with the address
Jim Ronan,
Mullinahone

We did live 'out in the sticks' as you put it.
Chances are it would work today, as even though
Mullinahone is a small, but well known place.

Actually Seamus, EI8EPB, his parents still live
there.. so if you wanted to try it.. you could try
sending an envelope to Seamus Ryan, Mullinahone to see
if he got it :)

As Charles J Kickham allegedly once said:
"Any man who hasn't been to Mullinahone, can't say he
has travelled at all"

History Bit:
Mullinahone is actually a English construct, the real
name of the place is Muileann na hUamhan, which
translated is "Mill by the River"

http://www.mullinahone-parish.com/

Anyways... I'm blaming Scott for bringing me
completely off topic.

Sent from Yahoo! Mail - a smarter inbox http://uk.mail.yahoo.com

128. Another Day another Order

Yahoo group: RTrak
Date: 2008-02-14 15:19:33 UTC
From: RobertCGRO
Topic: 128 Message: 128

Scott,

Just put in my pre-order. I surprised myself because I forgot that I had $100 left-over in my Paypal account, so it cost me only $160 out-of-pocket for the RTrak! It really helps that the Canuck buck is on par these days.

I plan on showing the RTrak off at a local ham club meeting in the spring and doing a general talk on APRS and how to get started APRS.FI and RTRAK make it very easy for plug-n-play APRS. A lot of changes have been made in just short year in this growing aspect of the amateur radio service.

Found a South African website that also sells and all-in-wonder APRS tracker very similar and I nearly did a double take, but they use the cellular GSM band down there to really the APRS packets. GSM has a dedicate packet channel and they've tapped into that system and probably that the future of APRS in this part of the world also.

Check it out at: http://eytraker.com/

73,
Robert, VA3ROM
http://my.tbaytel.net/va3rom

129. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-14 17:24:55 UTC
From: Keith VE7GDH
Topic: 100 Message: 129

Looking at pictures of the Rtrak, is the channel selected by that rotary switch in the back left corner? I was thinking it would be convenient to have access to changing the frequency without opening it up or reprogramming it on the road.

I was going to ask you about what is on the end of the enclosure, but just viewed...
http://ph.groups.yahoo.com/group/rtrak/photos/view/f33d?b=1

What's this about a four hop path in the config program though? hi!
http://ph.groups.yahoo.com/group/rtrak/photos/view/3886?b=1

Will frequency programming be done within otwinconfig.exe?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

130. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders

Yahoo group: RTrak
Date: 2008-02-14 21:19:36 UTC
From: Jason Rausch
Topic: 100 Message: 130

--- Keith VE7GDH <ve7gdh@...> wrote:

> Looking at pictures of the Rtrak, is the channel
> selected by that rotary
> switch in the back left corner? I was thinking it
> would be convenient to
> have access to changing the frequency without
> opening it up or
> reprogramming it on the road.

I simply ran out of room on the end panel for the
rotary switch. The best place was to place it on the
board at the opposite end. A hole can then be drilled
in the top of the case to access the switch from the
outside. I left that up to the end user since some
people want the unit to be as sealed as possible.

>
> I was going to ask you about what is on the end of
> the enclosure,
> but just viewed...
>
http://ph.groups.yahoo.com/group/rtrak/photos/view/f33d?b=1

Yep, thats it. The engraving is a bit deep on that
test panel. The shipped version will be about half
that depth engraving. I have another test panel with
the proper engraving depth, but the labels are
mis-placed, so I did'nt want to use that for the
picture.

>
> What's this about a four hop path in the config
> program though? hi!
>
http://ph.groups.yahoo.com/group/rtrak/photos/view/3886?b=1

I think I just punched in somthing to get it
programmed. I admit, that is a bit exsessive.

DISCLAIMER: Please do not follow the example ;o)

>
> Will frequency programming be done within
> otwinconfig.exe?

Yes, there is a button labeled "Freq" down in the
botom right region of the programming interface.
Click that button and you will get this table:

http://ph.groups.yahoo.com/group/rtrak/photos/view/3886?b=2

Now you can pre-program up to eight frequencies that
are selectable by the rotary switch or ahrd set by the
radio buttons at the top of the window. As you can
see, the Primary and Secondary freqencies can be
selected with by the selector or radio buttons. The
secondary would be an alternate frequency that is used
every n seconds, set by the "Use secondary every..."
text box.

Hope that clears it up.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

131. Re: [rtrak] Re: Last Call for Current RTrak Batch Orders DUTY/TAXES

Yahoo group: RTrak
Date: 2008-02-15 08:51:15 UTC
From: Tapio Sokura
Topic: 100 Message: 131

Jon wrote:
> For Ireland, if it's over a certain value (which I
> must check again).. its about €100 euro. You get hit
> for duty no matter what.

You have to remember that there are two separate charges involved here (in the EU): 1) The duty that varies depending on the article type and 2) value added tax that doesn't vary that much. The duty can be 0%, but it can also be 10% or even higher. The duty for amateur radio gear is 0% (GPS-receivers are 3,7% currently) in the EU. The VAT (a bit like sales tax in the US) is what the country charges for that type of products, usually around 20% in the EU.

Often shipments where the total or separate amounts of duty/VAT are under a certain limit, like 10 euros, are passed without collecting the duty/VAT. So for amateur radio gear, the limit in Finland is about 45 euros (VAT 22%). The exact limit probably varies between countries. And of course if you write 20 USD in the green duty form that goes outside the packaging, it might pass through customs even if the real value of the contents is 200 USD... or it might not.

I'd recommend including a clear invoice or shipment list inside the packaging that includes the monetary values of the goods and shipping. And if you know the duty class of products, you might want to include those as well to minimize the duty clerk's searching trouble.

Tapio

132. Re: [rtrak] RTrak Now Available for Order

Yahoo group: RTrak
Date: 2008-02-18 17:26:27 UTC
From: Keith VE7GDH
Topic: 92 Message: 132

Jason KE4NYV wrote...

> RPC Electronics is happy to announce that we are
> taking pre-orders for our brand new RTrak All-In-One

Is there an approximate date when the first orders will start to ship?
Also someone was asking me when you will be taking more orders after the
initial release?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

133. Re: [rtrak] RTrak Now Available for Order

Yahoo group: RTrak
Date: 2008-02-18 17:33:36 UTC
From: Jason Rausch
Topic: 92 Message: 133

--- Keith VE7GDH <ve7gdh@...> wrote:

> Is there an approximate date when the first orders
> will start to ship?

We will start shipping in roughly 2 weeks from now. I am just waiting on boards and other key parts to come in.

> Also someone was asking me when you will be taking
> more orders after the
> initial release?

At this point, we have roughly 25 units sold. I play to go ahead and build 30, so if orders trickle in, we will do our best to fill them right behind the inital orders.

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

134. GPS Antenna Question

Yahoo group: RTrak
Date: 2008-02-19 07:36:41 UTC
From: Joel Maslak
Topic: 134 Message: 134

How long is the feedline on the GPS antenna that is included with the RTrak? I'm trying to figure out if it will work unmodified or not, and if not, what I will have to do to make it work in my application.

Also, it looks like the RTrak uses has female SMA jacks for both the GPS and VHF antennas. Is this correct?

Thanks!

135. Re: GPS Antenna Question

Yahoo group: RTrak
Date: 2008-02-19 12:55:05 UTC
From: Jason Rausch
Topic: 134 Message: 135

--- In rtrak@yahoogroups.com, Joel Maslak <jmaslak@...> wrote:
>
> How long is the feedline on the GPS antenna that is included with
> the RTrak?

I'll have to get back with the exact length, but I think they are 10 feet.

> Also, it looks like the RTrak uses has female SMA jacks for both the
> GPS and VHF antennas. Is this correct?

Yes, I used female SMAs for both ports. I had considered using two different connectors, so they could not be switched. But, the only other options at that footprint were odd connectors like reverse SMA, FME and FMA. I wanted to stick with somthing somewhat standard. It seems like any well versed APRS user has at least one extra SMA GPS laying in a bin or drawer, somewhere. :o)

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

136. Rtrak Shipping

Yahoo group: RTrak
Date: 2008-03-08 00:11:26 UTC
From: Dennis Rogers
Topic: 136 Message: 136
Attachments: 2 described; binary payloads are missing from this source WARC

```
[ Attachment content not displayed ]
```

137. Re: Rtrak Shipping

Yahoo group: RTrak
Date: 2008-03-13 00:55:41 UTC
From: Jason Rausch
Topic: 136 Message: 137

Dennis and the group,

I am sorry that I have not posted sooner to the group with the status of shipment. We are currently busy building. We have a few parts on the way. As soon as these parts come in, we will program all of the units and start shipping.

We are a bit behind on the shipping schedule, but we are working as fast as we can to get caught up.

To prove we are hard at it, I have posted a coupld of pictures of the production units being built right now:

http://ph.groups.yahoo.com/group/rtrak/photos/browse/df43

Remember, you can always check the shipping status page for details on when your order will ship. We are updating this daily and it will reflect each step along the way.

Shipping Status Page:

http://www.rpc-electronics.com/orderstatus.php

Thanks to everyone for their patience and support as we get through this first wave!

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In rtrak@yahoogroups.com, "Dennis Rogers" <n5vrp.satx@...> wrote:
>
> Jason,
>
> I am dropping you this email to make sure you have my current email
> address.
> ISPs are just not what they used to be. How is the first of orders going.
> Hope all is
> going ok as to weather in your area as it is not a normal March for us yet.
> Looking forward to the shipment of the Rtrak II.
>
> 73's
>
> --

> Regards,
>
> Dennis, N5VRP
> n5vrp.satx@...
> or n5vrp@...
>
> ARRL Member
> Cactus-Intertie Member
> AMSAT Member, President's Club
> 73's from SATX
>

138. Re: [rtrak] Re: Rtrak Shipping

Yahoo group: RTrak
Date: 2008-03-13 03:58:30 UTC
From: Dennis Rogers
Topic: 136 Message: 138
Attachments: 2 described; binary payloads are missing from this source WARC

[Attachment content not displayed]

139. Re: [rtrak] Re: Rtrak Shipping

Yahoo group: RTrak
Date: 2008-03-15 01:26:27 UTC
From: Keith VE7GDH
Topic: 136 Message: 139

Jason KE4NYV wrote...

> We are currently busy building...
> http://ph.groups.yahoo.com/group/rtrak/photos/browse/df43

Looking good! Just curious... how long is the cable for the GPS antenna?
Also, what are the max/min supply voltages? Any thoughts about a
slightly longer case so batteries cold be internal?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

140. Re: [rtrak] Re: Rtrak Shipping

Yahoo group: RTrak
Date: 2008-03-16 16:46:21 UTC
From: Jason Rausch
Topic: 136 Message: 140

> Looking good! Just curious... how long is the cable
> for the GPS antenna?

5 meters or ~16 feet.

> Also, what are the max/min supply voltages?

Minimal: 9VDC
Max: 35VDC

> Any thoughts about a slightly longer case so
> batteries cold be internal?

Actually, we have looked into rearanging the component placement to squeeze in a LiPo (Lithium Polymer) battery and balancing charging circuit. With the weight very little, current rating high and the cost dropping on LiPo batteries, it's a perfect match for the RTrak.

The internal battery option is at least a year away.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

141. Shipping Status

Yahoo group: RTrak
Date: 2008-03-22 15:36:41 UTC
From: Jason Rausch
Topic: 141 Message: 141

Folks,

99% of the pending RTrak orders were shipped this morning. The US domestic orders should start showing up as early as Monday. International orders will be about a week to two weeks.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

142. Re: [rtrak] Shipping Status

Yahoo group: RTrak
Date: 2008-03-26 20:32:41 UTC
From: Jon
Topic: 141 Message: 142

Woohoo.. mine's arrived... but I don't want to start
playing with it as I've too much to do already....
looks real nice.

John

--- Jason Rausch <lists@...> wrote:

> Folks,
>
> 99% of the pending RTrak orders were shipped this
> morning. The US
> domestic orders should start showing up as early as
> Monday.
> International orders will be about a week to two
> weeks.
>
> Thanks!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>

Sent from Yahoo! Mail.
More Ways to Keep in Touch. http://uk.docs.yahoo.com/nowyoucan.html

143. Re: [rtrak] Shipping Status

Yahoo group: RTrak
Date: 2008-03-26 20:37:10 UTC
From: Curt, WE7U
Topic: 141 Message: 143

On Wed, 26 Mar 2008, Jon wrote:

> Woohoo.. mine's arrived... but I don't want to start
> playing with it as I've too much to do already....
> looks real nice.

But... Just look at it... It's so shiny!

;-)

--
Curt, WE7U: <www.eskimo.com/~archer/> XASTIR: <www.xastir.org>
"Lotto: A tax on people who are bad at math." -- unknown
"Windows: Microsoft's tax on computer illiterates." -- WE7U
The world DOES revolve around me: I picked the coordinate system!

144. Re: [rtrak] Shipping Status

Yahoo group: RTrak
Date: 2008-03-26 20:43:08 UTC
From: Jim Tolbert
Topic: 141 Message: 144

I might be able to squeeze out a few minutes to mess with it you would like me to! :-)

Just offering!!! ;-)

When you DO get start using it, we will be wait for your review.

Later..... jt

Curt, WE7U wrote:
>
> On Wed, 26 Mar 2008, Jon wrote:
>
> > Woohoo.. mine's arrived... but I don't want to start
> > playing with it as I've too much to do already....
> > looks real nice.
>
> But... Just look at it... It's so shiny!
>
> ;-)
>
> --
> Curt, WE7U: <www.eskimo.com/~archer/> XASTIR: <www.xastir.org>
> "Lotto: A tax on people who are bad at math." -- unknown
> "Windows: Microsoft's tax on computer illiterates." -- WE7U
> The world DOES revolve around me: I picked the coordinate system!
>
>

--
Jim Tolbert
RiverRidge Consulting, LLC
PO Box 536
Webster, WI 54893

715-866-4398 home office
715-349-8993 fax

RiverRidge@...

145. Re: [rtrak] Shipping Status

Yahoo group: RTrak
Date: 2008-03-26 20:49:43 UTC
From: Jon
Topic: 141 Message: 145

--- "Curt, WE7U" <archer@...> wrote:

> On Wed, 26 Mar 2008, Jon wrote:
>
> > Woohoo.. mine's arrived... but I don't want to
> start
> > playing with it as I've too much to do already....
> > looks real nice.
>
> But... Just look at it... It's so shiny!
>
Like that lasted...

programming as we speak.. and oh, look.. standard
power socket sizes... and oh look.. I've got a DC lead
of the same size with powerpoles on it.. oh look it
comes with a programming cable... sure it would be a
shame not to try it out :)

Actually, a few work colleagues are 'running' with a
petition from Waterford to the Government talking shop
"The Dail" next week. It would be perfect trip to
test it on, though I'm not sure if it would hit the
digi's all the time.

Hmmm...
John
> ;-)
>
> --
> Curt, WE7U: <www.eskimo.com/~archer/> XASTIR:
> <www.xastir.org>
> "Lotto: A tax on people who are bad at math." --
> unknown
> "Windows: Microsoft's tax on computer illiterates."
> -- WE7U
> The world DOES revolve around me: I picked the
> coordinate system!
>

_____
Rise to the challenge for Sport Relief with Yahoo! For Good

http://uk.promotions.yahoo.com/forgood/

146. Re: [rtrak] Shipping Status

Yahoo group: RTrak
Date: 2008-03-26 21:30:43 UTC
From: Jon
Topic: 141 Message: 146

Right,

All running (EI3RCW-15),

I've only 'skimmed' the manual,

It appears it swaps frequency every 90 seconds (nice
idea, I like it), so I set it to be the same freq
primary and secondary.

Sitting here now waiting for it to beacon again to
verify.

I like this. I think I'll be putting it in my
brothers car for a week or so... he does a lot of
driving so we'd get a good idea of the range of it
with the existing APRS network.

I like the fact that everything (bar the antenna) is
included in the box.

--- Jim Tolbert <riverridge@...> wrote:

> I might be able to squeeze out a few minutes to mess
> with it you would
> like me to! :-)
>
> Just offering!!! ;-)
>
> When you DO get start using it, we will be wait for
> your review.
>
> Later..... jt
>
> Curt, WE7U wrote:
> >
> > On Wed, 26 Mar 2008, Jon wrote:
> >
> > > Woohoo.. mine's arrived... but I don't want to
> start
> > > playing with it as I've too much to do
> already....
> > > looks real nice.
> >
> > But... Just look at it... It's so shiny!
> >
> > ;-)

> >
> > --
> > Curt, WE7U: <www.eskimo.com/~archer/> XASTIR:
> <www.xastir.org>
> > "Lotto: A tax on people who are bad at math." --
> unknown
> > "Windows: Microsoft's tax on computer
> illiterates." -- WE7U
> > The world DOES revolve around me: I picked the
> coordinate system!
> >
> >
>
> --
> Jim Tolbert
> RiverRidge Consulting, LLC
> PO Box 536
> Webster, WI 54893
>
> 715-866-4398 home office
> 715-349-8993 fax
>
> RiverRidge@...
>
>

Sent from Yahoo! Mail.
More Ways to Keep in Touch. http://uk.docs.yahoo.com/nowyoucan.html

147. Re: [rtrak] Shipping Status

Yahoo group: RTrak
Date: 2008-03-27 04:03:37 UTC
From: Dennis Rogers
Topic: 141 Message: 147
Attachments: 2 described; binary payloads are missing from this source WARC

```
[ Attachment content not displayed ]
```

148. Open Tracker GUI question

Yahoo group: RTrak
Date: 2008-03-30 23:29:58 UTC
From: Russ Chadwick
Topic: 148 Message: 148

Since RTrak does not have a receiver, what parts of the Open Tracker software GUI have no effect on the operation of the RTrak?

Russ KB0TVJ

149. Re: [RTrak] Open Tracker GUI question

Yahoo group: RTrak
Date: 2008-03-30 23:33:20 UTC
From: Scott Miller
Topic: 148 Message: 149

Anything relating to receive. =]

Quiet time and DCD mode, for starters. And of course the waypoint stuff.

Scott
N1VG

Russ Chadwick wrote:
> Since RTrak does not have a receiver, what parts of the Open Tracker
> software GUI have no effect on the operation of the RTrak?
>
> Russ KB0TVJ
>
>
> ----------
>
> Yahoo! Groups Links
>
>
>
>
>

150. Re: Open Tracker GUI question

Yahoo group: RTrak
Date: 2008-03-30 23:36:57 UTC
From: Jason Rausch
Topic: 148 Message: 150

--- In rtrak@yahoogroups.com, Russ Chadwick <russ@...> wrote:
>
> Since RTrak does not have a receiver, what parts of the Open
Tracker
> software GUI have no effect on the operation of the RTrak?

Off the top of my head, the Waypoints function will not work. This is used when the OpenTracker decodes the packet of a station containing position data. This data is then formed into a waypoint string and sent to a mapping GPS. The station then shows up a waypoint on the GPS.

The only other thing I see if the "Software DCD" checkbox.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

151. meaning of rapid green blinking

Yahoo group: RTrak
Date: 2008-03-31 02:36:10 UTC
From: Russ Chadwick
Topic: 151 Message: 151

The Open Tracker manual says that rapid green blinking means that the channel is in use. Since there is no input channel for the RTrak, what does it mean when the green LED is blinking rapidly? I understand that slow green blinking means that valid GPS sentences are being received by the RTrak. However, sometimes I see bursts of rapid green blinking.

An unrelated question. How does one pick just one profile and use that profile only?

Russ KB0TVJ

152. Re: [RTrak] meaning of rapid green blinking

Yahoo group: RTrak
Date: 2008-03-31 03:14:39 UTC
From: Scott Miller
Topic: 151 Message: 152

I'm not sure how Jason's got it set up, but maybe the audio input is floating and it's getting some noise. You can just set the quiet time to 0 and it should ignore it and stop the flashing.

Scott
N1VG

Russ Chadwick wrote:
> The Open Tracker manual says that rapid green blinking means that the
> channel is in use. Since there is no input channel for the RTrak, what
> does it mean when the green LED is blinking rapidly? I understand that
> slow green blinking means that valid GPS sentences are being received by
> the RTrak. However, sometimes I see bursts of rapid green blinking.
>
> An unrelated question. How does one pick just one profile and use that
> profile only?
>
> Russ KB0TVJ
>
>
> ----------
>
> Yahoo! Groups Links
>
>
>
>
>

153. Re: [RTrak] meaning of rapid green blinking

Yahoo group: RTrak
Date: 2008-03-31 12:15:18 UTC
From: Jason Rausch
Topic: 151 Message: 153

--- Scott Miller <scott@...> wrote:

> I'm not sure how Jason's got it set up, but maybe
> the audio input is
> floating and it's getting some noise.

If you look on the board at the 2x12 header, you will see a pin marker "AIN". This is the audio input pin for the OT1+. It is floating for anyone who wishes to add on a receiver of some kind. I have not seen this yet with all of the testing we did. I would have to say it's some kind of induced noise getting in on that pin.

> You can just set the quiet time
> to 0 and it should ignore it and stop the flashing.

I'll start setting that as default when I do inital setup on the bench.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

154. Rtrak Up with new CONFIG

Yahoo group: RTrak
Date: 2008-04-01 05:05:41 UTC
From: Dennis Rogers
Topic: 154 Message: 154
Attachments: 2 described; binary payloads are missing from this source WARC

```
[ Attachment content not displayed ]
```

155. Rtrak Up with new CONFIG

Yahoo group: RTrak
Date: 2008-04-02 01:54:35 UTC
From: Dennis Rogers
Topic: 154 Message: 155
Attachments: 2 described; binary payloads are missing from this source WARC

```
[ Attachment content not displayed ]
```

156. Re: [RTrak] Rtrak Up with new CONFIG

Yahoo group: RTrak
Date: 2008-04-02 02:53:03 UTC
From: Russ Chadwick
Topic: 154 Message: 156

Dennis,

Could you send me the snapshot of your latest configuration. My RTrak is getting GPS lock and is transmitting. The packets are full strength on my radio, but my TNC-X (that works fine with other packets on the data output of the radio) doesn't decode the RTrak packets. There is no yellow LED flash when the RTrak packet is received on the radio. It's not clear to me what the best transmitter settings are to produce good packets.

Thanks in advance.

Russ KB0TVJ

Dennis Rogers wrote:
>
> Last night I tried many different configurations. You have to use Two
> Profiles for Rtrak to send position and telemetry data since this can
> only be done
> via two packet messages sent separately. It does NOT allow in Rtrak
> that I can see for this to be done in one packet.
>
> I am now trying to resolve the timing issues of when and how often
> packets are sent. So onward trying to set this up properly based on I
> want ALL
> position information and telemetry to be sent in three or four
> messages every 10, 15 minutes respectively.
>
> Russ, the configuration displays I sent you would only allow position
> data packets only. The timing of those packets are not controlled with
> TX delay
> as in other trackers. It has to be Profile One vs. Two. What is the
> timing sequence needed between Profile One and Two to allow this to
> happen.
> This I am not sure of at this time. Will advise.
>
> At this time I have all data being sent out, but too often.
>
> Dennis
>
> --
> Regards,
>
> Dennis, N5VRP
> n5vrp.satx@... <mailto:n5vrp.satx@...>
> or n5vrp@... <mailto:n5vrp@...>

>
> ARRL Member
> Cactus-Intertie Member
> AMSAT Member, President's Club
> 73's from SATX
>
>

157. Rtrak Results Posted

Yahoo group: RTrak
Date: 2008-04-02 05:40:10 UTC
From: Dennis Rogers
Topic: 157 Message: 157
Attachments: 2 described; binary payloads are missing from this source WARC

[Attachment content not displayed]

158. Configuration Setups

Yahoo group: RTrak
Date: 2008-04-02 05:59:14 UTC
From: Dennis Rogers
Topic: 158 Message: 158
Attachments: 2 described; binary payloads are missing from this source WARC

```
[ Attachment content not displayed ]
```

159. Which ADC pins are usable?

Yahoo group: RTrak
Date: 2008-04-04 02:40:49 UTC
From: Joel Maslak
Topic: 159 Message: 159

```
What ADC pins (on the dual-row header) are available to use (that is,
which ones are *not* also used for the frequency selection switch)?
```

160. New file uploaded to rtrak

Yahoo group: RTrak
Date: 2008-04-04 11:35:40 UTC
From: rtrak@yahoogroups.com
Topic: 160 Message: 160

```
Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the rtrak
group.

File : /rtrak_1_7__schematic.jpg
Uploaded by : ke4nyv <lists@...>
Description : RTrak Schematic Version 1.7

You can access this file at the URL:
http://groups.yahoo.com/group/rtrak/files/rtrak_1_7__schematic.jpg

To learn more about file sharing for your group, please visit:
http://help.yahoo.com/l/us/yahoo/groups/original/members/web/index.htmlfiles

Regards,

ke4nyv <lists@...>
```

161. Re: New file uploaded to rtrak

Yahoo group: RTrak
Date: 2008-04-04 15:35:39 UTC
From: kaf4472
Topic: 160 Message: 161

One slight correction to the schematic: The 7808 is probably not putting out 18v.

For future board revision, you might consider a diode from each regulator output to its input, to protect the pass transistor in case the input is suddenly pulled to zero.

Tnx & 73,
Mike W2AG

162. Re: [RTrak] Re: New file uploaded to rtrak

Yahoo group: RTrak
Date: 2008-04-04 15:55:39 UTC
From: Jason Rausch
Topic: 160 Message: 162

--- kaf4472 <Carmelink@...> wrote:

> One slight correction to the schematic: The 7808 is
> probably not
> putting out 18v.

No, it's not, but I did'nt have an +8VDC symbol made
in Eagle, so I just used the closest thing I had.

>
> For future board revision, you might consider a
> diode from each
> regulator output to its input, to protect the pass
> transistor in case
> the input is suddenly pulled to zero.

Thanks for the suggestion, I will add that into the
next revision.

One thing that is not reflected in this schematic is
the two pin jumper for the power LED. The uploaded
version shows the power LED ran through the currently
un-used dip switch. All future versions will be like
this.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

163. RTrak Received

Yahoo group: RTrak
Date: 2008-04-05 14:29:55 UTC
From: RobertCGRO
Topic: 163 Message: 163

Hi all,

Just got my RTrak in the mail this past week, and have it up and running, no problems. Somehow, I lucked out with Canada Customs. The delcaration sticker clearly indicated the contents & value but it passed through the system without any taxes owing, thank you very much. Guess the package was too small and light for the customs checkpoint and was just passed through the regular mail system. Because this package is very small and light. I was amazed at just how small this thing is!

Anyway, I'm chuffed or gob-smacked as the Brits would say about the RTraker quality and supplied kit components. My only nit-pick is with the programming software. I would like a popup list with the various APRS secondary and primary symbols for field programming if I have to change the tracker symbol for some reason and I don't have an internet connection to look up what the symbol is / or \ and whatever. I do have a printout and I guess for now, I'll leave it in the glove box of the SUV. How's that for nit-picking!

Otherwise, programming was a no-brainer for anyone with some APRS experience, but I didn't see much in the user's manual to help someone who may be a newbie in explaining all the options and what they do and when you'd want to use them. I suppose that the default settings should suffice, they really just set their callsign-ssid.

The guys at RPC Electroncis have done themselves proud. I hope they sell lots RTraks and continue refinements and additions to the product line. I'll be showing off the unit to the locals in our ham club, and writing a newsletter article. I hope that RPC Electronics gets something published in QST and the ARRL lab to reviews it.

BZ FB ES 73,
Robert, VA3ROM
http://mytbaytel.net/va3rom

164. Re: [RTrak] RTrak Received

Yahoo group: RTrak
Date: 2008-04-05 16:21:20 UTC
From: Scott Miller
Topic: 163 Message: 164

The programming software is my fault - it's common to the OpenTracker, OpenTracker+ (including the one embedded in the RTrak), and the Tracker2. I did actually start on a graphical drop-down list for symbols, but didn't find a good way to do it. If someone happens to have the symbol collection in Windows .ico format, it'd probably be a good start.

Scott
N1VG

RobertCGRO wrote:
> Hi all,
>
> Just got my RTrak in the mail this past week, and have it up and
> running, no problems. Somehow, I lucked out with Canada Customs. The
> delcaration sticker clearly indicated the contents & value but it
> passed through the system without any taxes owing, thank you very
> much. Guess the package was too small and light for the customs
> checkpoint and was just passed through the regular mail system.
> Because this package is very small and light. I was amazed at just
> how small this thing is!
>
> Anyway, I'm chuffed or gob-smacked as the Brits would say about the
> RTraker quality and supplied kit components. My only nit-pick is with
> the programming software. I would like a popup list with the various
> APRS secondary and primary symbols for field programming if I have to
> change the tracker symbol for some reason and I don't have an
> internet connection to look up what the symbol is / or \ and
> whatever. I do have a printout and I guess for now, I'll leave it in
> the glove box of the SUV. How's that for nit-picking!
>
> Otherwise, programming was a no-brainer for anyone with some APRS
> experience, but I didn't see much in the user's manual to help
> someone who may be a newbie in explaining all the options and what
> they do and when you'd want to use them. I suppose that the default
> settings should suffice, they really just set their callsign-ssid.
>
> The guys at RPC Electroncis have done themselves proud. I hope they
> sell lots RTraks and continue refinements and additions to the
> product line. I'll be showing off the unit to the locals in our ham
> club, and writing a newsletter article. I hope that RPC Electronics
> gets something published in QST and the ARRL lab to reviews it.
>
> BZ FB ES 73,
> Robert, VA3ROM

> http://mytbaytel.net/va3rom
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> Yahoo! Groups Links
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165. Re: RTrak Received

Yahoo group: RTrak
Date: 2008-04-06 02:25:33 UTC
From: Jason Rausch
Topic: 163 Message: 165

--- In rtrak@yahoogroups.com, "RobertCGRO" <robertcgro@...> wrote:
>
> Hi all,
>
> Just got my RTrak in the mail this past week, and have it up and
> running, no problems. Somehow, I lucked out with Canada Customs.
The
> delcaration sticker clearly indicated the contents & value but it
> passed through the system without any taxes owing, thank you very
> much. Guess the package was too small and light for the customs
> checkpoint and was just passed through the regular mail system.
> Because this package is very small and light. I was amazed at just
> how small this thing is!

Well, I did mark all international orders as "gift" so that MIGHT
have helped you avoid the incomming customs. Not sure.

> My only nit-pick is with
> the programming software. I would like a popup list with the
> various APRS secondary and primary symbols for field programming if
> I have to
> change the tracker symbol for some reason and I don't have an
> internet connection to look up what the symbol is / or \ and
> whatever. I do have a printout and I guess for now, I'll leave it
in
> the glove box of the SUV. How's that for nit-picking!

Thanks Scott for jumping in and taking the hit ;o) Actually, that
has been somthing that has bugged me, but I am not doing the hard
programming, so I can't say much. Back when I was playing with
writing a simple VB6 based APRS client, I added in a table with the
20 or 30 most used symbols. All you had to do was click on the
symbol you wanted and it was selected.

For now, I did find this decent online list:

http://ham-shack.com/aprs_pri_symbols.html

>
> Otherwise, programming was a no-brainer for anyone with some APRS
> experience, but I didn't see much in the user's manual to help
> someone who may be a newbie in explaining all the options and what
> they do and when you'd want to use them. I suppose that the default
> settings should suffice, they really just set their callsign-ssid.

I know that the manual is not 100%. I will be taking some time to
revise and include more information for the APRS newbies.

>
> The guys at RPC Electroncis have done themselves proud. I hope they
> sell lots RTraks and continue refinements and additions to the
> product line.

We appreciate the kind words! We are very proud of it.

> I'll be showing off the unit to the locals in our ham
> club, and writing a newsletter article. I hope that RPC Electronics
> gets something published in QST and the ARRL lab to reviews it.

I have been contacted by the editor of QEX to do an article, as well
as a contact to have the RTrak reviewed by QST. As soon as I know of
anything, I will announce to the group.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

166. Re: [RTrak] Re: RTrak Received

Yahoo group: RTrak
Date: 2008-04-06 02:41:19 UTC
From: Scott Miller
Topic: 163 Message: 166

> I have been contacted by the editor of QEX to do an article, as well
> as a contact to have the RTrak reviewed by QST. As soon as I know of
> anything, I will announce to the group.

I'm going to be jealous if you get in QST right away - I've been doing this stuff for 4 years with no write-ups! =]

I did do an interview for the Austrian ham radio journal, but I don't know if it ever ran...

Scott
N1VG

167. Re: RTrak Received

Yahoo group: RTrak
Date: 2008-04-06 11:58:14 UTC
From: RobertCGRO
Topic: 163 Message: 167

Don't need an icon table. What I meant was a textual list is just fine for Q&D (quick and dirty programming. There is the icon list in UIVIEW which is used to create a station or object icons for reference.

Or, check out:
http://ham-shack.com/aprs_pri_symbols.html
http://ham-shack.com/aprs_sec_symbols.html

A sorted drop picklist such as:

Airplane
Bike
Car
Hospital
...
House
Truck
Yacht

is fine with me. In fact, without the actual text next to them, I can't figure out what some of the APRS icons are supposed to represent.

Yes, the kids out there live and ie by smiley faces. But, sometimes a simple, single word is worth a thousand icons ;)

73,
Robert

73,
Robert

--- In rtrak@yahoogroups.com, Scott Miller <scott@...> wrote:
>
> The programming software is my fault - it's common to the OpenTracker,
> OpenTracker+ (including the one embedded in the RTrak), and the
> Tracker2. I did actually start on a graphical drop-down list for
> symbols, but didn't find a good way to do it. If someone happens to
> have the symbol collection in Windows .ico format, it'd probably be a
> good start.
>
> Scott
> N1VG
>
>

168. Re: RTrak Received

Yahoo group: RTrak
Date: 2008-04-07 18:20:02 UTC
From: Jason Rausch
Topic: 163 Message: 168

--- In rtrak@yahoogroups.com, "RobertCGRO" <robertcgro@...> wrote:
>
> Don't need an icon table. What I meant was a textual list is just
fine
> for Q&D (quick and dirty programming. There is the icon list in
UIVIEW
> which is used to create a station or object icons for reference.
>
> Or, check out:
> http://ham-shack.com/aprs_pri_symbols.html
> http://ham-shack.com/aprs_sec_symbols.html

Our posts must have criss-crossed each other. The first link is the
same one I showed in a post a couple up on the list.

That is the closest thing I could find to a basic listing.

Well, maybe not, check out Uncle Bob's list:

http://eng.usna.navy.mil/~bruninga/aprs/symbolsX.txt

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

169. Re: [RTrak] Re: RTrak Received

Yahoo group: RTrak
Date: 2008-04-07 23:53:48 UTC
From: Scott Miller
Topic: 163 Message: 169

Well, that'd be easier at least. What I may do is have a pop-up that lets you select the icon and then fills in the two blanks. That way you've still got the flexibility to enter something that's not in the list, including overlays.

Scott

RobertCGRO wrote:
> Don't need an icon table. What I meant was a textual list is just fine
> for Q&D (quick and dirty programming. There is the icon list in UIVIEW
> which is used to create a station or object icons for reference.
>
> Or, check out:
> http://ham-shack.com/aprs_pri_symbols.html
> http://ham-shack.com/aprs_sec_symbols.html
>
>
> A sorted drop picklist such as:
>
> Airplane
> Bike
> Car
> Hospital
> ...
> House
> Truck
> Yacht
>
> is fine with me. In fact, without the actual text next to them, I can't
> figure out what some of the APRS icons are supposed to represent.
>
> Yes, the kids out there live and ie by smiley faces. But, sometimes a
> simple, single word is worth a thousand icons ;)
>
>
> 73,
> Robert
>
>
>
>
> 73,
> Robert
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>
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>
>
>
>
> --- In rtrak@yahoogroups.com, Scott Miller <scott@...> wrote:
>>
>> The programming software is my fault - it's common to the
> OpenTracker,
>> OpenTracker+ (including the one embedded in the RTrak), and the
>> Tracker2. I did actually start on a graphical drop-down list for
>> symbols, but didn't find a good way to do it. If someone happens to
>> have the symbol collection in Windows .ico format, it'd probably be a
>> good start.
>>
>> Scott
>> N1VG
>>
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> Yahoo! Groups Links
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170. Re: [RTrak] RTrak Received

Yahoo group: RTrak
Date: 2008-04-08 12:33:23 UTC
From: Keith VE7GDH
Topic: 163 Message: 170

Robert VA3ROM wrote...

> Just got my RTrak in the mail this past week...
> My only nit-pick is with the programming software. I would like
> a popup list with the various APRS secondary and primary symbols...

That would be nice, but if you have a PC with you for reprogramming, you could just place a copy of the included OpenTracker manual on the PC. It has a nicely laid out list os symbols, but there have been a handful of additions since it was created.

> ...but I didn't see much in the user's manual to help someone who
> may be a newbie in explaining all the options and what they do...

especially about paths! I see that your RTrak VA3ROM-9 is using WIDE2-1,WIDE1-1 for a path. That's backwards. WIDE1-1 should never be used anywhere except at the beginning of the path. VA3ROM-7 also has the path mis-configured.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

171. toasty...

Yahoo group: RTrak
Date: 2008-04-08 22:17:38 UTC
From: Keith VE7GDH
Topic: 171 Message: 171

Hi Jason - received my RTrak yesterday. Looks very nice! I haven't popped the hood yet. I programmed it last night and the GPS got a lock indoors in just a few minutes. I set it up on a fixed rate but have since changed over to SmartBeaconing. However, with it powered up and sitting indoors, I noticed that it was quite warm to the touch. Earlier, it felt just a few degrees higher than ambient temperature. This isn't hot, but definitely a lot warmer than it was earlier. Time to get the meter out.

The power supply is pretty steady at 14 volts, confirmed by VOM and a number of radios plugged into same source, which is a rig runner connected to a PWRgate with an Alinco DM-330MV on one side of the PWRgate and a 17 Ah gel cell on the other side.

With a digital meter haywired on the end of the supplied cable to measure the current...

* about 400 mA while it was warm.
* later 160-170 mA, still no lock on GPS, not so warm
* with a fixed position entered, 90-100 mA and cool
* back to GPS 160 - 170 mA, no lock, mildly warm
* still no lock - 400 mA and warmer
* powered it off and back on
* 400 mA, warm
* off and back on 160 mA
* GPS still no lock

* Powered it down and reconnected power with the supplied cable with no meter so I didn't have to sit there holding the probes. It eventually got a lock and started beaconing. It's feeling pretty toasty. Not too hot to touch, but warm enough to get my attention. I was listening on 144.390 and 144.990 and it wasn't transmitting except when it later got a lock and beaconed. I left it for about 10 minutes and it's beaconing, but quite warm to the touch. The RTrak is reporting 13.4 volts. I'm going to send it mobile for a while. The callsign-SSID in it is VE7GMI-9.

Oh yes... I had "upgraded" the OT+ from build 54439 to 54543, but later downgraded it to the firmware that was on the CD. It's back at 54439 and still running warm.

PS - with the paper sticker on the CD, it is unbalanced and caused lots of vibration with the disc spinning. I copied the whole lot to my HD and archived the disc.

73 es cul - Keith VE7GDH
--

"I may be lost, but I know exactly where I am!"

172. speed & direction

Yahoo group: RTrak
Date: 2008-04-08 23:59:11 UTC
From: Keith VE7GDH
Topic: 172 Message: 172

My son has gone for a drive with VE7GMI-1 in my RTrak. The beacon is set to include altitude, course & speed, GPS quality (for now) and voltage, with compressed disabled for now. As seen in UI-View, it doesn't show a course and direction. I have UI-HeightTrack set to track VE7GMI-1 in UI-View, but it isn't drawing a track. I presume this is because the RTrak isn't sending the course/direction, but any ideas Jason? Any other RTrak users that are able to get UI-HeightTrack to actually draw the track in UI-View?

There is an OpenTracker 1X in the vehicle as VE7GMI-9 and UI-HeightTrack draws the track properly for that station.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

173. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 01:20:10 UTC
From: Dennis Rogers
Topic: 171 Message: 173
Attachments: 2 described; binary payloads are missing from this source WARC

```
[ Attachment content not displayed ]
```

174. SmartBeaconing...

Yahoo group: RTrak
Date: 2008-04-09 01:36:28 UTC
From: Keith VE7GDH
Topic: 174 Message: 174

I sent my RTrak for a grocery run (VE7GMI-1) with SmartBeaconing enabled. For now, it is set at 10 km / 50 km for the slow / fast speeds, and every 300 secs / 60 secs for the slow and fast rates. The fast rate is more often than I would usually use, but it is only 500 mW. However, while it was parked for almost an hour, it appears that it continued to beacon about every 60 seconds. Jason or any other RTrak users... any observations about SmartBeaconing?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

175. Re: [RTrak] RTrak Received

Yahoo group: RTrak
Date: 2008-04-09 01:56:25 UTC
From: Jason Rausch
Topic: 163 Message: 175

--- Keith VE7GDH <ve7gdh@...> wrote:

> That would be nice, but if you have a PC with you
> for reprogramming, you
> could just place a copy of the included OpenTracker
> manual on the PC. It
> has a nicely laid out list os symbols, but there
> have been a handful of
> additions since it was created.

There is a copy of the OpenTracker manual on the
support CD shipped with every RTrak. I will look for
a decent list of icons that I can add to the RTrak
manual.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

176. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 02:03:41 UTC
From: Jason Rausch
Topic: 171 Message: 176

--- Keith VE7GDH <ve7gdh@...> wrote:

> Hi Jason - received my RTrak yesterday. Looks very
> nice!

Thanks!

> However, with
> it powered up and
> sitting indoors, I noticed that it was quite warm to
> the touch. Earlier,
> it felt just a few degrees higher than ambient
> temperature. This isn't
> hot, but definitely a lot warmer than it was
> earlier. Time to get the
> meter out.

Yes, you will notice that the RTrak will get warm at
startup and aquire time. We did notice this when
testing. It seems to only get warm when the GPS is
aquiring a fix. After that, it cools back down during
normal operation.

> With a digital meter haywired on the end of the
> supplied cable to
> measure the current...
>
> * about 400 mA while it was warm.
> * later 160-170 mA, still no lock on GPS, not so
> warm
> * with a fixed position entered, 90-100 mA and cool
> * back to GPS 160 - 170 mA, no lock, mildly warm
> * still no lock - 400 mA and warmer
> * powered it off and back on
> * 400 mA, warm
> * off and back on 160 mA
> * GPS still no lock

Thank you for the readings! I am going to do a little
testing myself and see if I can match these numbers up
with mine.

> Oh yes... I had "upgraded" the OT+ from build 54439
> to 54543, but later
> downgraded it to the firmware that was on the CD.
> It's back at 54439 and
> still running warm.

Yes, I forgot to mention this in the manual. There is
a specific RTrak firmware for the OpenTracker. I have
not checked, but I don't beleive Scott has the RTrak
firmware on the online list when doing a web update.
If all else fails, you can always do what you did.
Just reflash from the version on the CD.

Scott, do you think we can get that added to the web
update list?

>
> PS - with the paper sticker on the CD, it is
> unbalanced and caused lots
> of vibration with the disc spinning. I copied the
> whole lot to my HD and
> archived the disc.

A few people have mentioned this to me and I will look
for a better way to do this, from now on. I tried a
CD in my computer and I did'nt notice anything, but I
will go ahead and change the labels anyways.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

177. Re: [RTrak] speed & direction

Yahoo group: RTrak
Date: 2008-04-09 02:08:12 UTC
From: Jason Rausch
Topic: 172 Message: 177

--- Keith VE7GDH <ve7gdh@...> wrote:

> I presume this is because the
> RTrak isn't sending the course/direction, but any
> ideas Jason? Any other
> RTrak users that are able to get UI-HeightTrack to
> actually draw the track in UI-View?

I'm not sure why it is not sending the the course and
direction in the packet, if you have it selected.
Other than the addition of the frequency control code,
the OpenTracker firmware is exactly the same as the
normal OpenTracker 1+.

Possibly Scott can give some insight here.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

178. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 02:13:24 UTC
From: Jason Rausch
Topic: 171 Message: 178

-- Dennis Rogers <n5vrp.satx@...> wrote:

> I also have noticed when the Rtrak in GPS aqcuire
> mode runs very warm.
> However, when the Rtrak locks in on the GPS sats,
> then goes back to cool.

That is what we normally see with the test units we
have on the bench and on the road.

> I have not changed the firmware since it was setup
> after receiving it. Does
> it require a NEW firmware load other than that
> shipped? If so, which one?

No, the firmware the unit shipped with (at this time)
is the latest and greatest. Do not load the RTrak
with the normal OpenTracker 1+ firmware. The normal
OT1+ firmware does not have the frequency control code
in it.

You bring up a good point though, I am curious what
average lock time people are seeing with their RTraks.
All of our testing consistently was 30 or less
seconds from power up to full GPS lock.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

179. Re: [RTrak] SmartBeaconing...

Yahoo group: RTrak
Date: 2008-04-09 02:17:11 UTC
From: Jason Rausch
Topic: 174 Message: 179

--- Keith VE7GDH <ve7gdh@...> wrote:

> I sent my RTrak for a grocery run (VE7GMI-1) with
> SmartBeaconing
> enabled. For now, it is set at 10 km / 50 km for the
> slow / fast speeds,
> and every 300 secs / 60 secs for the slow and fast
> rates. The fast rate
> is more often than I would usually use, but it is
> only 500 mW. However,
> while it was parked for almost an hour, it appears
> that it continued to
> beacon about every 60 seconds. Jason or any other
> RTrak users...
> any observations about SmartBeaconing?

Thats interesting. As long as the slow rate is slow
rate is set for 300, it should beacon every 30
minutes, when stopped. One thing that has been
recently discussed about SmartBeaconing is the ability
for it to detect that the vehicle has stopped and
staying stopped for some time. This could be a flaw
in the SB code. I will program an RTrak tomorrow with
these settings and give it a try.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

180. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 02:35:12 UTC
From: Scott Miller
Topic: 171 Message: 180

> Yes, I forgot to mention this in the manual. There is
> a specific RTrak firmware for the OpenTracker. I have
> not checked, but I don't beleive Scott has the RTrak
> firmware on the online list when doing a web update.
> If all else fails, you can always do what you did.
> Just reflash from the version on the CD.

If it's on there, it'll be there as 'I2CTX' or something like that.
I'll make sure to label it clearly as RTrak when I have a new update
(and in fact I think one is due, that should fix course/speed problems).

Scott
N1VG

181. Re: [RTrak] speed & direction

Yahoo group: RTrak
Date: 2008-04-09 02:37:07 UTC
From: Scott Miller
Topic: 172 Message: 181

This might be related to a problem I just fixed in the OT1 where it was sometimes transmitting in the middle of a GPS sentence and the course/speed would be temporarily invalid. I don't recall the same problem being reported with the OT1x, though. If that is the problem, then you should see course/speed at least some of the time.

Scott

Jason Rausch wrote:
> --- Keith VE7GDH <ve7gdh@...> wrote:
>
>> I presume this is because the
>> RTrak isn't sending the course/direction, but any
>> ideas Jason? Any other
>> RTrak users that are able to get UI-HeightTrack to
>> actually draw the track in UI-View?
>
> I'm not sure why it is not sending the the course and
> direction in the packet, if you have it selected.
> Other than the addition of the frequency control code,
> the OpenTracker firmware is exactly the same as the
> normal OpenTracker 1+.
>
> Possibly Scott can give some insight here.
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
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182. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 05:26:02 UTC
From: Keith VE7GDH
Topic: 171 Message: 182

Jason KE4NYV wrote...

> Yes, you will notice that the RTrak will get warm at
> startup and aquire time. We did notice this when
> testing. It seems to only get warm when the GPS is
> aquiring a fix. After that, it cools back down during
> normal operation.

I had the RTrak powered for perhaps 10 hours with it running barely warmer than ambient temperature. It was only this morning while I was playing around with programming changes that I discoered it running very warm. During some of this time, the GPS couldn't get a lock. However, later with a valid position, it was still running very warm. However, it's been powered up for most of the evening with it running nice and cool again. I'll keep an eye on it and set it up another time so I can monitor the current without haviing to hold the VOM probes in place.

> Thank you for the readings! I am going to do a little
> testing myself and see if I can match these numbers up
> with mine.

I'll see if I can repeat the readings too when I've come up with a bettr way to monitor the current.

> Yes, I forgot to mention this in the manual. There is
> a specific RTrak firmware for the OpenTracker. I have
> not checked, but I don't beleive Scott has the RTrak
> firmware on the online list when doing a web update.
> If all else fails, you can always do what you did.
> Just reflash from the version on the CD.

It was the OpenTracker Plus SMT firmware 54543 that I tried earlier today. I later reinstalled the 54439 firmware that came on the RTrak CD. I couldn't see one online that was specific to the RTrak.

> A few people have mentioned this to me and I will look
> for a better way to do this, from now on. I tried a
> CD in my computer and I did'nt notice anything, but I
> will go ahead and change the labels anyways.

Perhaps it is optical drives that spin the disc faster that the vibration is apparent. I've actually seen drives destroyed by paper stickers that have come loose. I think the discs are a bit more expensive, but there are printable discs that can be printed on by an ink jet printer. I have Canon and Epson printers that do a pretty good job.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

183. Re: [RTrak] SmartBeaconing...

Yahoo group: RTrak
Date: 2008-04-09 05:47:07 UTC
From: Keith VE7GDH
Topic: 174 Message: 183

Jason KE4NYV wrote...

> That's interesting. As long as the slow rate is slow
> rate is set for 300, it should beacon every 30
> minutes, when stopped.

Actually, it would be 300 seconds or 5 minutes.

> One thing that has been recently discussed about
> SmartBeaconing is the ability for it to detect that the vehicle
> has stopped and staying stopped for some time. This could be
> a flaw in the SB code. I will program an RTrak tomorrow
> with these settings and give it a try.

If Scott can fiddle with the code to get it to beacon a time or two when it initially stops, that would be great. I changed my SmartBeaconing settings earlier this evening...

10 km/h / 80 km/h
600 secs / 60 secs

It continued to beacon every 60 seconds while stationary! Could this be related to the OT+ not sending the course and speed even though it's enabled? i.e. if the GPS isn't sending the correct NMEA sentence, perhaps the OT+ doesn't know how fast it is travelling. On the other hand, Scott said earlier...

> I'll make sure to label it clearly as RTrak when I have a new
> update (and in fact I think one is due, that should fix course/speed
> problems).

so I'll watch for an RTrak-specific update.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

184. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 05:31:03 UTC
From: Keith VE7GDH
Topic: 171 Message: 184

Jason KE4NYV wrote...

> You bring up a good point though, I am curious what
> average lock time people are seeing with their RTraks.
> All of our testing consistently was 30 or less
> seconds from power up to full GPS lock.

I'm sometimes getting a lock in about 30 seconds. Other times I'm seeing a couple of minutes. This is indoors but by large windows with a view of about half the sky. Another GPS in the middle of the room is able to get a lock most of the time. I'll try to do a few outdoor tests where it can see more of the sky.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

185. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 14:00:46 UTC
From: Scott Miller
Topic: 171 Message: 185

> Perhaps it is optical drives that spin the disc faster that the
> vibration is apparent. I've actually seen drives destroyed by paper
> stickers that have come loose. I think the discs are a bit more
> expensive, but there are printable discs that can be printed on by an
> ink jet printer. I have Canon and Epson printers that do a pretty good
> job.

Yeah, my Epson RX580 does a pretty decent job, especially after outfitting it with a continuous inking system. I went from constantly changing cartridges to not being able to see any drop in the tank levels after many, many color pages.

The rollers need to be cleaned periodically or it'll start having trouble feeding the CD carrier. Uline sells printable CDRs, and I get my printable mini-CDRs from Tape and Media.

Someday I may start having them screen printed, but at this point (especially with the ink system) it's cheaper to print them in-house.

Scott
N1VG

186. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 14:37:46 UTC
From: Tapio Sokura
Topic: 171 Message: 186

Keith VE7GDH wrote:
> Perhaps it is optical drives that spin the disc faster that the
> vibration is apparent. I've actually seen drives destroyed by paper
> stickers that have come loose. I think the discs are a bit more
> expensive, but there are printable discs that can be printed on by an
> ink jet printer. I have Canon and Epson printers that do a pretty good
> job.

There are also lightscribe-compatible discs & drives, where you first burn the contents normally and then flip the disc and burn a visible design on the other side. The discs are a bit more expensive than regular cd-r/dvd-+r, the drives are pretty much priced the same as normal burners.

Tapio

187. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-09 14:45:28 UTC
From: Scott Miller
Topic: 171 Message: 187

Yeah, I've got one of those, too. It was an interesting novelty, but the contrast is low and it's SLOW. Takes several minutes to do a simple text label. The printer takes only a few seconds to do a black and white label.

Scott

Tapio Sokura wrote:
> Keith VE7GDH wrote:
>> Perhaps it is optical drives that spin the disc faster that the
>> vibration is apparent. I've actually seen drives destroyed by paper
>> stickers that have come loose. I think the discs are a bit more
>> expensive, but there are printable discs that can be printed on by an
>> ink jet printer. I have Canon and Epson printers that do a pretty good
>> job.
>
> There are also lightscribe-compatible discs & drives, where you first
> burn the contents normally and then flip the disc and burn a visible
> design on the other side. The discs are a bit more expensive than
> regular cd-r/dvd-+r, the drives are pretty much priced the same as
> normal burners.
>
> Tapio
>
> ---
>
> Yahoo! Groups Links
>
>
>
>
>

188. Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-09 15:11:11 UTC
From: riverridge_wi
Topic: 188 Message: 188

On the issue of heat build-up.... I am working on schemes for a "backpack" for the RTrak. The units will be carried by SAR volunteers, firefighters, etc. The hardware to packed include the RTrak and a 8 cell AA battery pack, an antenna, and the GPS receiver. THe idea is that the person carrying the device will not have any interaction with it. The "backpack" will need to protect the device from mechanical shock and environmental exposure.

Issues that I am considering ....

1) Just how "toasty" is the RTrak getting? Does the metal case need to be exposed to dump heat? I have been thinking a nest of closed cell foam.

2) What antenna makes the most sense? What are mounting considerations vis-a-vis the carrier's head?

3) I was planning on a Velcro mount of the GPS receiver on top of a shoulder.

4) For environmental protection -- specifically rain/snow -- I was considering a waterproof nylon with either zip or Velcro closure on bottom. THe idea being that the carrying straps, antenna, and GPS receiver could be stored inside when not in use.

Comments? Anyone have a suggestion of a "off-the-shelf" transport container that will easily be worn and fitted to a wide variety of sizes of people?

Many thanx..... jt

189. Re: [RTrak] SmartBeaconing...

Yahoo group: RTrak
Date: 2008-04-09 15:39:06 UTC
From: Keith VE7GDH
Topic: 174 Message: 189

I now have my RTrak set to beacon every 600 secs below 10 km/h
and every 10 seconds (just for testing!) at 80 km/h, but stationary it
is beaconing every 10 seconds. Guess I'll disable SmartBeaconing
for now and wait for an update.

It took about 2 1/2 mins to get a lock with the GPS antenna in a window
with a view of half the sky. The roof is dry, so it should be able to
receive signals from other directions as well, but knocked down by a
few dB. All of my newer GPS receivers seem to work OK in the house
as long as the shake roof isn't wet.

The RTrak is cool to touch. I'm simply not seeing the elevated
temperatures that I was yesterday.

I took one more stab at it and disabled reporting altitude, course and
speed (which weren't working in any case) and GPS quality and set
SmartBeaconing to 600 seconds for the slow speed and 10 seconds
for the fast speed. With the RTrak stationary, it continued to beacon
every 10 seconds. As I mentioned, I'll disable SmartBeaconing for now.

It took 142 seconds for the GPS to get a lock. Another GPS receiver in
the middle of the room (not near the windows) struggling to get a lock
with 3-4 satellites, but with strong signals.

OK... one final try. I used the "regular otwincfg.exe" from Scott's
site. The "frequency" button was available just like in the
configuration program supplied with the RTrak. I set it up again
with altitude, course/speed, time, and voltage enabled, and with
SmartBeaconing enabled and with a slow rate of 600 seconds. Well,
it beaconed while stationary every 10 minutes as expected, but on the
wrong frequency! Perhaps Scott could take a look at the supplied
RTrakOpenTracker.exe some time and tweak SmartBeaconing for us.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

190. Re: [RTrak] SmartBeaconing...

Yahoo group: RTrak
Date: 2008-04-09 15:55:07 UTC
From: Scott Miller
Topic: 174 Message: 190

> it beaconed while stationary every 10 minutes as expected, but on the
> wrong frequency! Perhaps Scott could take a look at the supplied
> RTrakOpenTracker.exe some time and tweak SmartBeaconing for us.

There's only one current version of otwincfg.exe - Jason got the version with the frequency button before that was widely released, but now that's the only one out there.

The SmartBeaconing problem is most likely a firmware issue, and I'll be checking it out this weekend.

Scott
N1VG

191. re: [RTrak] Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-10 00:17:37 UTC
From: riverridge_wi
Topic: 188 Message: 191

I take it from your comment that the idea didn't work.

What was used 22 years ago? Why didn't it work? What happened?
What
problems
were insurmountable and what filled the need instead?

Thanks in advance for sharing your experience.

Later..... jt
--
Jim Tolbert
RiverRidge Consulting, LLC
Chattering Squirrel, LLC
7711 Park West Street
Siren, WI 54872

Quoting Facility 406 DM09 <facility_406@...>:

[Hide Quoted Text]
> I had a request for such a device in the same field seven years
ago. It was
> an old idea then that had been implimented some fifteen years
earlier. I
> saved my time and money.
>
> Kurt
>
> ----- Original Message -----
> From: "riverridge_wi" <riverridge@...>
> To: <rtrak@yahoogroups.com>
> Sent: Wednesday, April 09, 2008 08:11
> Subject: [RTrak] Toasty -- (Redux)
>
>
> : On the issue of heat build-up.... I am working on schemes for a
> : "backpack" for the RTrak. The units will be carried by SAR
> : volunteers, firefighters, etc. The hardware to packed include the
> : RTrak and a 8 cell AA battery pack, an antenna, and the GPS
receiver.
> : THe idea is that the person carrying the device will not have
any
> : interaction with it. The "backpack" will need to protect the
device
> : from mechanical shock and environmental exposure.
> :

> : Issues that I am considering ....
> :
> : 1) Just how "toasty" is the RTrak getting? Does the metal case
need
> : to be exposed to dump heat? I have been thinking a nest of
closed
> : cell foam.
> :
> : 2) What antenna makes the most sense? What are mounting
> : considerations vis-a-vis the carrier's head?
> :
> : 3) I was planning on a Velcro mount of the GPS receiver on top
of a
> : shoulder.
> :
> : 4) For environmental protection -- specifically rain/snow -- I
was
> : considering a waterproof nylon with either zip or Velcro closure
on
> : bottom. THe idea being that the carrying straps, antenna, and
GPS
> : receiver could be stored inside when not in use.
> :
> : Comments? Anyone have a suggestion of a "off-the-shelf"
transport
> : container that will easily be worn and fitted to a wide variety
of
> : sizes of people?
>
>

192. Re: [RTrak] Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-10 03:15:25 UTC
From: Facility 406 DM09
Topic: 188 Message: 192

My idea was fine, but the system already existed and had been used since the mid 80's in Military and Fire Departments with $$$$$. Basically an APRS system, TX 2 - 5W on most any VHF or UHF frequency, GPS engine, patch antenna on a vest shoulder or top of a pack frame with optional riser, batteries in a flat package, flexible cable antenna on frame-top or back of vest as well. At the time I got the request, about June of '01, there were units for sale in the EMS magazines. It's not that my idea wouldn't work, I didn't see a point in duplicating the product. I did play around a bit with the idea for myself and I still have a few parts left, Motorola GPS engines and two military amplified GPS antennas. The design was flexible, could be used on a pack or vest, each component small and thin, no more than a pack of smokes in size for the GPS and TX combo, batteries in a similar pack which could be daisy chained, an option of flexible solar panel to keep the unit alive in SAR missions. Because the GPS needs to see the sky, these were primarily for guys on a fire line, smoke jumpers, SAR, et cetera. Similar but MUCH larger systems are in use in the surveying industy, I see guys all over with them, these are combination GPS\Differential GPS systems. Nowadays the entire system (no DGPS) could be put in something the size of a deck of cards with room to spare with high power density batteries, GPS\antenna combos and tiny 5W TX.

Kurt

----- Original Message -----
From: "riverridge@..." <cen94999@...>
To: "Facility 406 DM09" <facility_406@...>
Sent: Wednesday, April 09, 2008 17:02
Subject: Re: [RTrak] Toasty -- (Redux)

: I take it from your comment that the idea didn't work.
:
: What was used 22 years ago? Why didn't it work? What happened? What
: problems
: were insurmountable and what filled the need instead?
:
: Thanks in advance for sharing your experience.

193. Re: [RTrak] Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-10 15:59:45 UTC
From: Keith VE7GDH
Topic: 188 Message: 193

jt (callsign?) wrote...

> 1) Just how "toasty" is the RTrak getting? Does the metal case need
> to be exposed to dump heat? I have been thinking a nest of closed
> cell foam.

My RTrak only got noticably warm several times over a several hour period. It's too bad I didn't open it up to see where the heat was being generated. I'm better able to monitor the current now, and not not observing the 400 mA that I measured first time around when I noticed it was running warm, and I'm not seeing the heat buildup that I mentioned in my "toasty" message. I'm measuring a current draw of 130 mA with a 3 cell LiPO that started out at 11.7 volts. I got 6 hrs 20 mins from the LiPO. I'll post more battery results when the LiPOs have been freshly charged before use. I should have got almost 10 hours out of the 1300 mAh LiPO but it isn't new (been used in quite a number of RC flights) and hadn't been charged in some time. I calculated that with the 130 mA draw for the RTrak (GPS receiver and OpenTracker) that I measured recently, and a beacon of approximately half a second (300 mA) every 60 seconds, the average draw was 132.5 mA. Theoretically, it should have ben good for about 9.8 hours, I had the RTrak set to stop transmitting at 9 volts, but the GPS receiver and OT would have continued to draw 130 mA until the battery died. I happened to be watching it and disconnected the battery shortly after it stopped transmitting.

> 2) What antenna makes the most sense? What are mounting
> considerations vis-a-vis the carrier's head?

I know one person that has a wire antenna sewn into a backpack. One that is up in the air will be more efficient. For now I'm using an MFJ 1715-S. For your application, I would think flexibility would be important so the user can walk through the bush without having to worry about the antenna. Perhaps a dipole with "piano wire" for the top part and flexible wire in the pack for the other half? Your options are something that mounts right on the RTrak or somethinig on the end of a short piece of coax. I'm sure others will be interested in your results.

Where you have your own portable digis close to the area of operation, you might be able to get away with rubber ducks mounted right on the RTrak.

> 3) I was planning on a Velcro mount of the GPS receiver on top of a
> shoulder.

Sounds reasonable. Just don't leave any of the coax exposed so it can catch o the bush while walking.

> 4) For environmental protection -- specifically rain/snow -- I was
> considering a waterproof nylon with either zip or Velcro closure on
> bottom. The idea being that the carrying straps, antenna, and GPS
> receiver could be stored inside when not in use.

Definitely worth considering. If the 2M antenna isn't mounted on the RTrak, keeping it out of the weather will be easier as you could have coax to the two antennas exit from the bottom of whatever weatherproof enclosure you mount it in. My application will see it used on a bike and for the most part in dry weather, but I should probably be thinking of some kind of weather proofing which will likely mean mounting the antenna somewhere instead of just threading it onto the RTrak.

> Comments? Anyone have a suggestion of a "off-the-shelf" transport
> container that will easily be worn and fitted to a wide variety of
> sizes of people?

I have a few Pelican cases here, but probably not quite large enough to put an RTrak in, but a rigid container could be considered instead of your nylon enclosure. The holes for the coax would of course compromise the "waterproofness" but a rigid enclosure would eliminate the possibility of strain on the SMA connectors.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

194. Re: toasty...

Yahoo group: RTrak
Date: 2008-04-10 11:11:43 UTC
From: Bob MacDonnell
Topic: 171 Message: 194

Hi Guys;
Don't know if you have come across a meter that's very handy for this sort of testing. I purchased one last year from Powerwerx and find it great for measuring 12Vdc loads on a sailboat. It can be purchased from several suppliers, and is available with Anderson connectors if you like them. Makes it easy to insert in a supply.
http://www.powerwerx.com/product.asp?ProdID=3809&CtgID=3575

I gather they were designed for the model aircraft industry where battery capacity vs weight is important. The meter measures current and voltage and olds max/min values. I use it on radios, lights, refridg units, ...

73 de bob in brisbane ve0rdm/vk4bdm

--- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@...> wrote:
>
> Hi Jason - received my RTrak yesterday. Looks very nice! I haven't
> popped the hood yet. I programmed it last night and the GPS got a
lock .....

> * about 400 mA while it was warm.
> * later 160-170 mA, still no lock on GPS, not so warm
> * with a fixed position entered, 90-100 mA and cool
> * back to GPS 160 - 170 mA, no lock, mildly warm
> * still no lock - 400 mA and warmer
> * powered it off and back on
> * 400 mA, warm
> * off and back on 160 mA
> * GPS still no lock
.....
> 73 es cul - Keith VE7GDH

195. Re: [RTrak] Re: RTrak Received

Yahoo group: RTrak
Date: 2008-04-10 16:34:44 UTC
From: Keith VE7GDH
Topic: 163 Message: 195

Jason KE4NYV wrote...

> Well, I did mark all international orders as "gift" so that MIGHT
> have helped you avoid the incomming customs. Not sure.

Could you send me two or three more as gifts? hi! No extra charges here
when I picked mine up. Tnx!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

196. Re: [RTrak] Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-10 21:08:11 UTC
From: Jim Tolbert
Topic: 188 Message: 196

Thanks Keith..... BTW I am a newly minted Licensee -- KC9MXT -- wet behind the ears and generally ignorant <grin>.

We are leaning toward 8 AA alkaline cells as they can be stored in a brick and installed in a minute when the devices are needed.

On the antenna, I understand that we will have better signal with a 5/8 wave than a 1/2 wave than a 1/4 wave than a rubber duck. But how about a 1/2 wave mounted at waist level versus a 1/4 wave mounted at shoulder level? Any opinions?

A Pelican case / Otterbox on a belt in one design I have been kicking around. The other is a small backboard that will be carried high on the back,-- between the shoulder blades -- to which are mounted all the components (including the antenna mount) with a weather resistant flap that comes down over everything to protect it.

If I ever get my grant funded and get the devices purchased, I will report successes and failures <grin>.

Many thanks for comments and ideas..... jt (KC9MXT -- I have to get used to add this :-[ )

Keith VE7GDH wrote:
>
> jt (callsign?) wrote...
>
> > 1) Just how "toasty" is the RTrak getting? Does the metal case need
> > to be exposed to dump heat? I have been thinking a nest of closed
> > cell foam.
>
> My RTrak only got noticably warm several times over a several hour
> period. It's too bad I didn't open it up to see where the heat was being
> generated. I'm better able to monitor the current now, and not not
> observing the 400 mA that I measured first time around when I noticed it
> was running warm, and I'm not seeing the heat buildup that I mentioned
> in my "toasty" message. I'm measuring a current draw of 130 mA with a 3
> cell LiPO that started out at 11.7 volts. I got 6 hrs 20 mins from the
> LiPO. I'll post more battery results when the LiPOs have been freshly
> charged before use. I should have got almost 10 hours out of the 1300
> mAh LiPO but it isn't new (been used in quite a number of RC flights)
> and hadn't been charged in some time. I calculated that with the 130 mA
> draw for the RTrak (GPS receiver and OpenTracker) that I measured
> recently, and a beacon of approximately half a second (300 mA) every 60
> seconds, the average draw was 132.5 mA. Theoretically, it should have
> ben good for about 9.8 hours, I had the RTrak set to stop transmitting

> at 9 volts, but the GPS receiver and OT would have continued to draw 130
> mA until the battery died. I happened to be watching it and disconnected
> the battery shortly after it stopped transmitting.
>
> > 2) What antenna makes the most sense? What are mounting
> > considerations vis-a-vis the carrier's head?
>
> I know one person that has a wire antenna sewn into a backpack. One that
> is up in the air will be more efficient. For now I'm using an MFJ
> 1715-S. For your application, I would think flexibility would be
> important so the user can walk through the bush without having to worry
> about the antenna. Perhaps a dipole with "piano wire" for the top part
> and flexible wire in the pack for the other half? Your options are
> something that mounts right on the RTrak or somethinig on the end of a
> short piece of coax. I'm sure others will be interested in your results.
>
> Where you have your own portable digis close to the area of operation,
> you might be able to get away with rubber ducks mounted right on the
> RTrak.
>
> > 3) I was planning on a Velcro mount of the GPS receiver on top of a
> > shoulder.
>
> Sounds reasonable. Just don't leave any of the coax exposed so it can
> catch o the bush while walking.
>
> > 4) For environmental protection -- specifically rain/snow -- I was
> > considering a waterproof nylon with either zip or Velcro closure on
> > bottom. The idea being that the carrying straps, antenna, and GPS
> > receiver could be stored inside when not in use.
>
> Definitely worth considering. If the 2M antenna isn't mounted on the
> RTrak, keeping it out of the weather will be easier as you could have
> coax to the two antennas exit from the bottom of whatever weatherproof
> enclosure you mount it in. My application will see it used on a bike and
> for the most part in dry weather, but I should probably be thinking of
> some kind of weather proofing which will likely mean mounting the
> antenna somewhere instead of just threading it onto the RTrak.
>
> > Comments? Anyone have a suggestion of a "off-the-shelf" transport
> > container that will easily be worn and fitted to a wide variety of
> > sizes of people?
>
> I have a few Pelican cases here, but probably not quite large enough to
> put an RTrak in, but a rigid container could be considered instead of
> your nylon enclosure. The holes for the coax would of course compromise
> the "waterproofness" but a rigid enclosure would eliminate the
> possibility of strain on the SMA connectors.
>
> 73 es cul - Keith VE7GDH

> --
> "I may be lost, but I know exactly where I am!"
>
>

--
Jim Tolbert
RiverRidge Consulting, LLC
PO Box 536
Webster, WI 54893

715-866-4398 home office
715-349-8993 fax

RiverRidge@...

197. Re: [RTrak] Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-10 22:02:59 UTC
From: Scott Miller
Topic: 188 Message: 197

> We are leaning toward 8 AA alkaline cells as they can be stored in a
> brick and installed in a minute when the devices are needed.

Speaking of which, I've got 8xAA holders in stock now:

https://www.argentdata.com/catalog/product_info.php?products_id=96

Scott
N1VG

198. Re: [RTrak] Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-11 01:45:26 UTC
From: Keith VE7GDH
Topic: 188 Message: 198

Jim KC9MXT wrote...

> BTW I am a newly minted Licensee -- KC9MXT...

Congratulations on getting your ticket, but that wetness doesn't last very long. You'll have to start using moisturizer behind your ears pretty soon!

> We are leaning toward 8 AA alkaline cells as they can be stored in
> a brick and installed in a minute when the devices are needed.

8 AAs would be a pretty good way to go. Alkalines are available just about anywhere. NiMH could be OK if the batteries are used regularly. I'm playing around with LiPOs but I'll have to watch them and not deep discharge them. Of course an autible alarm or an actual cut-off circuit could be added. My jaunts will likely much shorter than the maximum run time though.

> On the antenna, I understand that we will have better signal with a
> 5/8 wave than a 1/2 wave than a 1/4 wave than a rubber duck. But how
> about a 1/2 wave mounted at waist level versus a 1/4 wave mounted at
> shoulder level? Any opinions?

Lemme see... you would need a ground plane for a 5/8 but not for a 1/2 wave. While both of those would have about 3 DB gain over a 1/4 wave, the 1/4 wave might work out better if the digis are above you as it would have a higher angle of radiation. There will be less strain on the SMA connector with a (flexible) quarter wave than with a 5/8 or 1/2 wave... if it's mounted right on the RTrak. The rubber duck will radiate equally poorly in all directions. It just depends on what you are doing and how close the digis are. Generally speaking, I wouldn't expect good performance from a ruber duck. I would probably go with the quarter wave to keep the size down and for the higher angle of radiation. However, if you are on flat terrain and a long way from the digis, go with the half wave. Having a quarter wave of wire hang down below the RTrak wouldn't hurt with the quarter wave.

> A Pelican case / Otterbox on a belt in one design I have been kicking
> around. The other is a small backboard that will be carried high on
> the back,-- between the shoulder blades -- to which are mounted all
>the components (including the antenna mount) with a weather resistant
> flap that comes down over everything to protect it.

In dry weather, a quarter wave right on the RTrak with it protruding from the top pocket on the pack could work, but you can't count on it being dry all of the time. I would think the biggest concerns would be keeping it dry and not having cables ot get snagged on the bush. A

Pelican case etc. could give some good protection to the connectors, but if the VHF antenna is going to be remotely mounted, you could keep the RTrak upright in a pocket on the pack, you could even just velcro the battery pack to it, have the connectors on the top of the RTrak and have the the coax exit out the bottom of a ziploc bag. The RTrak is a nice compact package, but batteries and antennas are still a consideration when it comes time to stuffing it all in the pack.

> If I ever get my grant funded and get the devices purchased, I will
> report successes and failures <grin>.

Ah... getting someone else to pay for it all would be nice!

> Many thanks for comments and ideas..... jt (KC9MXT -- I
> have to get used to add this :-[ )

Lots of time, questions can be answered without knowing the other persons callsign, but with APRS, it can be invaluable in trying to come up with more than a general answer... for instance, KC9MXT hasn't been heard on APRS yet. Do you have the (first) RTrak yet?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

199. Re: [RTrak] Toasty -- (Redux)

Yahoo group: RTrak
Date: 2008-04-11 04:42:17 UTC
From: Joel Maslak
Topic: 188 Message: 199

On Apr 10, 2008, at 7:45 PM, Keith VE7GDH wrote:
> 8 AAs would be a pretty good way to go. Alkalines are available just
> about anywhere. NiMH could be OK if the batteries are used regularly.
> I'm playing around with LiPOs but I'll have to watch them and not deep
> discharge them. Of course an autible alarm or an actual cut-off
> circuit
> could be added. My jaunts will likely much shorter than the maximum
> run
> time though.
>

Hmmm...I wonder if another parameter could be added to the config program to change the behavior of the status LED...instead of it's current function (indicate GPS lock and transmit):

Green --> Profile 1
Red --> Profile 2
Flash alternate color for short time --> GPS data
Flash alternate color for longer time --> Transmit

Or something like that... Then you could switch to Profile 2 on battery voltage drop. If the status light is mostly RED, it's time to change the battery...

200. Not switching from profile 1 to 2

Yahoo group: RTrak
Date: 2008-04-11 06:47:48 UTC
From: Roy Veimoen
Topic: 200 Message: 200

I have set profile 1 to use smart baconing, and profile switching to tx when speed is more then 5 km\h. Profile 2 is set to send one time in hour, and profile switch 3 km\h or less. It does not switch. I have exchanged the profile with the result it whas only tx 1 time pr. hour when driving.

201. Re: [RTrak] Not switching from profile 1 to 2

Yahoo group: RTrak
Date: 2008-04-11 08:06:39 UTC
From: Keith VE7GDH
Topic: 200 Message: 201

Roy (callsign?) wrote...

> I have set profile 1 to use smart beaconing, and profile switching
> to tx when speed is more then 5 km\h. Profile 2 is set to send one
> time in hour, and profile switch 3 km\h or less. It does not switch.
> I have exchanged the profile with the result it was only tx 1 time
> pr. hour when driving.

I haven't tried profile switching, but it appears that the OT isn't getting course/speed from the GPS... at least enabling course/speed doesn't beacon the data. I found that with SmartBeaconing enabled, it just beacons at the fast rate while stationary. I believe we are waiting for a firmware update to take care of that little glitch.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

202. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-11 08:24:19 UTC
From: Keith VE7GDH
Topic: 171 Message: 202

Bob VE0RDM / VK4BDM wrote...

> http://www.powerwerx.com/product.asp?ProdID=3809&CtgID=3575

I'm reading my email backwards! I just chopped the supplied power cable a bit earlier today and put Anderson PowerPoles on it and put a "Watt's Up" meter inline with the battery. I'm seeing 130 mA when it's running normally and 340 mA when it's running hot. It appears to be the LM-317. I just sent Jason a detailed note on it a few minutes ago.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

203. Re: Not switching from profile 1 to 2

Yahoo group: RTrak
Date: 2008-04-11 13:18:27 UTC
From: Roy Veimoen
Topic: 200 Message: 203

It is beacon the data, but not switching btween profile 1 and 2. I will use the Rtrak in my boat, and for be kind with my battery it should only beacon once in hour when the boat not was in use.

--- In RTrak@...m, "Keith VE7GDH" <ve7gdh@...> wrote:
>
> Roy (callsign?) wrote...
>
> > I have set profile 1 to use smart beaconing, and profile switching
> > to tx when speed is more then 5 km\h. Profile 2 is set to send one
> > time in hour, and profile switch 3 km\h or less. It does not
switch.
> > I have exchanged the profile with the result it was only tx 1 time
> > pr. hour when driving.
>
> I haven't tried profile switching, but it appears that the OT isn't
> getting course/speed from the GPS... at least enabling course/speed
> doesn't beacon the data. I found that with SmartBeaconing enabled,
it
> just beacons at the fast rate while stationary. I believe we are
waiting
> for a firmware update to take care of that little glitch.
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"
>

204. Re: [RTrak] Re: Not switching from profile 1 to 2

Yahoo group: RTrak
Date: 2008-04-11 19:13:19 UTC
From: Keith VE7GDH
Topic: 200 Message: 204

Roy (callsign?) wrote...

> It is beacon the data, but not switching between profile 1 and 2. I
> will use the RTrak in my boat, and for be kind with my battery it
> should only beacon once in hour when the boat not was in use.

What settings do you have entered for profile switching? I just tried it and it worked OK for me based on 13V for profile 1 and < 12.5 V for profile 2.

I suspect profile switching based on speed won't work until we get the firmware update. Hopefully the same update will make course and speed functional, along with SmartBeaconing.

Re being kind to your battery... consider that the current consumption while not transmitting (according to my meter) is about 130 mA, and if you have it beacon once each minute, that's an extra 300 mA for e.g. half a second. The average current consumption will still only be about 132.5 mA. While the beacon rate will ultimately be a factor on how long your battery will last, unless you start beaconing at an extreme rate, the largest consumption of power is the by everything else in the RTrak rather than the transmitter itself.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

205. Firmware updates

Yahoo group: RTrak
Date: 2008-04-13 00:47:08 UTC
From: Scott Miller
Topic: 205 Message: 205

Firmware build 54568 has been posted for both the OT1+ (all versions) and OT1 (weather versions only). Otwincfg has been updated, too. I'm copying the RTrak group on this because updates have been made to the RTrak-specific OT1+ firmware as well. Changes are as follows:

OT1 weather:
* Added low-voltage inhibit support
* Changed TXD handling to match OT1+
* Added baud rate/level selection support

OT1+:
* Added software DCD support to WX firmware
* Fixed regular DCD (VOX/squelch input) in WX firmware
* Added LVI support to WX firmware
* If power relay is on and voltage is too low, relay is turned off and the current transmit cycle is skipped
* If power relay is on and GPS fix is lost, relay is turned off
* Removed (undocumented) incoming message support from RTrak version to make room for above changes

Also:

* Verified that SmartBeaconing works right on RTrak
* Tested quiet time with power control on OT1, OT1+ (verified that channel busy is checked after relay on)

One thing I didn't change (yet) is power control in profile switching. It currently works as designed; if you switch from a profile with power control enabled to one with it disabled, the relay is turned off. What I'll probably do is add a force-on option to support users who have a relay wired up but don't always want it used. This will bring the OT1+ in line with the T2, too.

If you've got other bugs to report that aren't covered here, please remind me so I can update my list. I've got some minor ones on the list still, but I think I've hit the big ones.

The RTrak firmware is now listed on the website (www.argentdata.com/support/otplus.html) and when using the 'web' button in otwincfg.

Scott

206. Re: [RTrak] Firmware updates

Yahoo group: RTrak
Date: 2008-04-13 13:15:17 UTC
From: Keith VE7GDH
Topic: 205 Message: 206

Scott N1VG wrote...

> Firmware build 54568 has been posted for both the OT1+... I'm
> copying the RTrak group on this because updates have been made to
> the RTrak-specific OT1+ firmware as well. Changes are as follows:

> * Verified that SmartBeaconing works right on RTrak
> * Tested quiet time with power control on OT1, OT1+
> (verified that channel busy is checked after relay on)

I downloaded the latest otwincfg.exe and updated the firmware in my
RTrak. I still see two problems:

* Even though enabled, it still doesn't beacon course and speed.
* SmartBeaconing still isn't working. I've got it set for...
10 50 km/h
300 60 secs
28 degrees / 10 secs

With it stationary, it is beaconing every 60 seconds. Same results with
the fast speed set to 80 km/h... e.g. as seen in UI-View

06:11:34R VE7GMI-1>APOTC1 <UI Len=47>:
!4848.92N/12327.33Wb/A=000521 13.4VRTrak
06:12:34R VE7GMI-1>APOTC1 <UI Len=47>:
!4848.92N/12327.33Wb/A=000518 13.4VRTrak

> The RTrak firmware is now listed on the website
> (www.argentdata.com/support/otplus.html) and when using the
> 'web' button in otwincfg.

Minor... when loading new firmware from FILE as opposed to WEB, the S19
files still don't show. I'm using the April 12 2008 otwincfg.exe.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

207. Re: [RTrak] SmartBeaconing...

Yahoo group: RTrak
Date: 2008-04-13 19:51:52 UTC
From: Keith VE7GDH
Topic: 174 Message: 207

Jason KE4NYV wrote...

> That's interesting. As long as the slow rate is slow
> rate is set for 300, it should beacon every 30
> minutes, when stopped.

Actually, 300 seconds would be 300 / 60 = 5 mins.

I just tried Scott's April 12 update to firmware 54568 for the RTrak, but SmartBeaconing still doesn't work. It always beacons at the fast rate. It still doesn't include course and speed when enabled. What NMEA sentences is the GPS receiver putting out? Is there any easy way of me verifying it... e.g. on the two pins marked GPSRX on the circuit board? A circuit diagram would be helpful.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

208. Re: [RTrak] toasty...

Yahoo group: RTrak
Date: 2008-04-13 19:57:10 UTC
From: Keith VE7GDH
Topic: 171 Message: 208

Jason KE4NYV wrote...

> That is what we normally see with the test units we
> have on the bench and on the road.

I am seeing an abnormal condition. It isn't the GPS receiver that is running warm... at least if the current is slightly higher while acquiring, I'm not noticing it. It's the LM317 that is running hot.

When I first apply power, the current draw is about 130 mA or so as measured by a "Watt's Up" meter. Almost every time, if I power it down and back up again, the current draw goes to 340 mA. The LM317 is the only thing that is running hot.

If I power cycle it with the off time being less than a minute, the current draw is 340 mA almost every time. If I wait a minute or more and power it back up again, the current is only 130 mA or so. Almost every time it is power cycled quickly, it comes back up drawing 340 mA. Does the circuit need to be modified, or is the LM317 bad?

Note... the tab on the LM317 is connected to the input. I have bent the LM317 up slightly so there is no chance that it is shorting to the circuit board.

So... am I the only one seeing the high current draw when power-cycling the RTrak?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

209. Re: toasty...

Yahoo group: RTrak
Date: 2008-04-14 02:07:06 UTC
From: Jason Rausch
Topic: 171 Message: 209

--- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@...> wrote:

> I am seeing an abnormal condition. It isn't the GPS receiver that
> is running warm... at least if the current is slightly higher while
> acquiring, I'm not noticing it. It's the LM317 that is running hot.

I'm sorry, I did'nt mean to imply it was the GPS giving off heat. I meant the LM317 all along. Since the LM317 is good for up to 1A, this is not a problem and what seems to be excessive heat is really not that much. Yes, it does get warm, but is not to the point of damaging the GPS, regulator or the RTrak as a whole. We mount the regulator flat to the board for the purpose of the board helping to sink the heat away from the regulator.

Scott has even gone as far to put tons of vias under the tab of the regulator to help sink the heat away, in his designs.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

210. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-14 06:58:31 UTC
From: Keith VE7GDH
Topic: 171 Message: 210

Jason KE4NYV wrote...

> I'm sorry, I didn't mean to imply it was the GPS giving off heat. I
> meant the LM317 all along. Since the LM317 is good for up to 1A,
> this is not a problem and what seems to be excessive heat is really
> not that much. Yes, it does get warm, but is not to the point of
> damaging the GPS, regulator or the RTrak as a whole.

Yes, it is the LM317 that is running hot when the problem occurs. When the RTrak is running normally, I measure the current at 130 mA and the LM317 is just mildy warm. If I power cycle it, the draw is a continuous 340 mA. This is not normal. This is not just when the GPS is aquiring. It is a continuous draw of 340 ma and the LM317 is too hot to touch for even a moment. It is only if I power it off for about a minute that I can power it back on with a normal current draw of about 130 mA.
If no-one else is reporting this, perhaps it is only my RTrak that is exhibiting this problem.

> We mount the regulator flat to the board for the purpose of the
> board helping to sink the heat away from the regulator.

According to the spec sheet, the tab on the LM317 is connected to the output, so it might be a good idea to space it off the circuit board a bit.

> Scott has even gone as far to put tons of vias under the tab of
> the regulator to help sink the heat away, in his designs.

Not a bad idea, but it is only when the current draw goes up to 340 ma continuous that the LM317 is extremely hot. I'm not talking about mildly warm. 2 watts is too much for it to dissipate without a heat sink, but again this is an abnormal situation. If it was only the normal current draw of the GPS receiver, it would only have to handle about 50 mA or so. Besides the extra heat when this happening, at 340 mA, the battery I am using will only last about 4-5 hours instead of about 10 hours.

Jason, or anyone else - how much current do you measure at 12 volts going into the RTrak?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

211. Re: [RTrak] Firmware updates

Yahoo group: RTrak
Date: 2008-04-16 17:14:48 UTC
From: Scott Miller
Topic: 205 Message: 211

Does someone have a capture from a Copernicus that I can test with? I just recently got the GPS chip installed in my RTrak bench test unit, but I don't have an antenna on it yet. I've been doing most of the testing from a simulator.

Scott

Keith VE7GDH wrote:
> Scott N1VG wrote...
>
>> Firmware build 54568 has been posted for both the OT1+... I'm
>> copying the RTrak group on this because updates have been made to
>> the RTrak-specific OT1+ firmware as well. Changes are as follows:
>
>> * Verified that SmartBeaconing works right on RTrak
>> * Tested quiet time with power control on OT1, OT1+
>> (verified that channel busy is checked after relay on)
>
> I downloaded the latest otwincfg.exe and updated the firmware in my
> RTrak. I still see two problems:
>
> * Even though enabled, it still doesn't beacon course and speed.
> * SmartBeaconing still isn't working. I've got it set for...
> 10 50 km/h
> 300 60 secs
> 28 degrees / 10 secs
>
> With it stationary, it is beaconing every 60 seconds. Same results with
> the fast speed set to 80 km/h... e.g. as seen in UI-View
>
> 06:11:34R VE7GMI-1>APOTC1 <UI Len=47>:
> !4848.92N/12327.33Wb/A=000521 13.4VRTrak
> 06:12:34R VE7GMI-1>APOTC1 <UI Len=47>:
> !4848.92N/12327.33Wb/A=000518 13.4VRTrak
>
>> The RTrak firmware is now listed on the website
>> (www.argentdata.com/support/otplus.html) and when using the
>> 'web' button in otwincfg.
>
> Minor... when loading new firmware from FILE as opposed to WEB, the S19
> files still don't show. I'm using the April 12 2008 otwincfg.exe.
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"

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212. Re: [RTrak] Firmware updates

Yahoo group: RTrak
Date: 2008-04-16 23:02:07 UTC
From: Keith VE7GDH
Topic: 205 Message: 212

Scott N1VG wrote...

> Does someone have a capture from a Copernicus that I can test with? I
> just recently got the GPS chip installed in my RTrak bench test unit,
> but I don't have an antenna on it yet. I've been doing most of the
> testing from a simulator.

I don't. I'm waiting for a reply from Jason about whether I can just tap into the two pads marked "GPS RX" to feed it to a terminal program. At this point in time, I really don't know if the problem I'm dealing with is because the GPS receiver isn't putting out the correct NMEA sentences, or because of a problem in the OT+ firmware. If Jason indicates that it's "OK" to just connect to those two pads and feed it to an RS-232 port on a PC, I'll capture some data and send to you.

* course / speed doesn't work if enabled - it simply isn't included in the beacon
* send date / time doesn't work if enabled - again, it just isn't transmitted.
* SmartBeaconing doesn't work... always beacons at fast rate

The other thing is hardware. My RTrak draws 130 mA most of the time. If I power cycle it, the current goes up to 340 mA and the LM317 gets very hot. I haven't heard of any other RTrak users that have seen the same symptom. I'm waiting for Jason to post his findings about current consumption. I also haven't seen anyone else on the RTrak list saying that SmartBeaconing wasn't working.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

213. I Apologize

Yahoo group: RTrak
Date: 2008-04-17 00:38:35 UTC
From: Jason Rausch
Topic: 213 Message: 213

Guys,

I'm sorry that I have not been answering back right away. I am snowed under with email and I am going to get to each message as quick as I can.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

214. Re: toasty...

Yahoo group: RTrak
Date: 2008-04-17 00:49:37 UTC
From: Jason Rausch
Topic: 171 Message: 214

> If no-one else is reporting this, perhaps it is only my RTrak that
> is exhibiting this problem.

So far, you are the only one that has reported this specific problem. As I stated before, we noted that our beta units would get warm during GPS aquisition, but then would cool down to a normal temp in regular tracking mode.

I know we have one test unit that was powered and ran continuously for at least 48 hours. I did experience it get warm during aquire time.

One thing we were worried about in the early design stages was the fact that the copernicus cannot keep it's catalog when powered down, unless there is a backup battery and it is put into a standby mode. This was not an option because the OT1+ it busy doing plenty other things. This turned out to be a short worry because we found that the typical lock time from cold power up was ~30 seconds. Pretty good in my book! We have come a far way from the old days of 5 minute lock times, with a full sky view and laying the receiver flat on a stable surface (I know, my Garmin 38 was exactly like this).

> According to the spec sheet, the tab on the LM317 is connected to
> the output, so it might be a good idea to space it off the circuit
> board a bit.

Yes, the tab is the output, but the board is soldermasked and should not cause a problem with shorting. I made sure that the part I used in EagleCAD did NOT have the tab area exposed for this reason.

> Not a bad idea, but it is only when the current draw goes up to
> 340 ma continuous that the LM317 is extremely hot. I'm not talking
> about mildly warm. 2 watts is too much for it to dissipate without
> a heat sink...

Like I said, the LM317 in a TO220 case is good for 1 amp. So neither my readings or yours have reached even half of that. For that reason, the heat has not been a problem in my testing. I agree that if yours in staying hot constantly, there is a chance there is somthing wrong with the regulator in your RTrak.

Keith, feel free to ship it back to me for a replacment regulator and full test. I have no problem doing that to make sure you are happy with the purchase.

> Jason, or anyone else - how much current do you measure at 12 volts
> going into the RTrak?

I am going to sit down tomorrow and do some hard testing and current reading. I will post my results when I have somthing to show.

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

215. Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 00:54:49 UTC
From: Jason Rausch
Topic: 205 Message: 215

--- In RTrak@yahoogroups.com, Scott Miller <scott@...> wrote:
>
> Does someone have a capture from a Copernicus that I can test
> with? I just recently got the GPS chip installed in my RTrak bench
> test unit, but I don't have an antenna on it yet. I've been doing
> most of the testing from a simulator.

Scott, even without a lock, the Copernicus will send unlocked data. If you connect your programming cable, null it and turn on the RTrak, you will see a GPS data dump to HyperTerm @ 4800 baud. I can get a patch antenna to you this week.

This brings up a question that someone else asked. What NMEA strings are being sent from the Copernicus? Off the top of my head, we turned on $GPGGA, $GPRMC, $GPVTG and several more. Basically, I turned on every NMEA sentence that was not Trimble specific. While monitoring the data, I noticed it was the same sentence set that any of my Garmin unit's output.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

216. Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 01:03:34 UTC
From: Jason Rausch
Topic: 205 Message: 216

--- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@...> wrote:

> I don't. I'm waiting for a reply from Jason about whether I can
> just tap
> into the two pads marked "GPS RX" to feed it to a terminal program.

Keith, the GPS RX pins are for sending GPS data from the OT1+, back to the Copernicus. If you leave the RTrak in "Run" mode, plug your programming cable in to the RTrak, null the DB9 end and plug into a computer running HyperTerm @ 4800, you will see the raw GPS data dump from the RTrak.

> The other thing is hardware. My RTrak draws 130 mA most of the
> time. If I power cycle it, the current goes up to 340 mA and the
> LM317 gets very hot. I haven't heard of any other RTrak users that
> have seen the same symptom.

Yeah, that is what has me thinking your unit is just acting "odd". Look for a private email in a little bit.

> I'm waiting for Jason to post his findings about current
> consumption.

I'm sorry, I know I promised this last week. I will do this tomorrow night and post my results.

> I also haven't seen anyone else on the RTrak list
> saying that SmartBeaconing wasn't working.

Right, but I am not sure it is working either. I will fire up a unit and take it for a ride tomorrow night.

I'm sorry I am so behind. We had back to back hamfest weekends and we're also trying to get ready for Dayton. No pressure there ;o) We are working on the next batch of RTraks as well, so if someone was waiting for the second batch, now is the time to order.

On a lighter note, we bought a 5x8' enclosed trailer for hauling stuff to shows, so now we can carry even more crap with us than before ;o) You don't realize how much of a pain an open truck bed is until you have to leave the truck alone long enough to go to the bathroom, while on a trip to/from a show.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

217. Re: [RTrak] Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 02:33:32 UTC
From: Scott Miller
Topic: 205 Message: 217

The OT1+ will use RMC, GGA, and GLL, but there's no need for GLL if it has either of the others.

Scott

Jason Rausch wrote:
> --- In RTrak@yahoogroups.com, Scott Miller <scott@...> wrote:
>>
>> Does someone have a capture from a Copernicus that I can test
>> with? I just recently got the GPS chip installed in my RTrak bench
>> test unit, but I don't have an antenna on it yet. I've been doing
>> most of the testing from a simulator.
>
> Scott, even without a lock, the Copernicus will send unlocked data.
> If you connect your programming cable, null it and turn on the RTrak,
> you will see a GPS data dump to HyperTerm @ 4800 baud. I can get a
> patch antenna to you this week.
>
> This brings up a question that someone else asked. What NMEA strings
> are being sent from the Copernicus? Off the top of my head, we
> turned on $GPGGA, $GPRMC, $GPVTG and several more. Basically, I
> turned on every NMEA sentence that was not Trimble specific. While
> monitoring the data, I noticed it was the same sentence set that any
> of my Garmin unit's output.
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
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218. Re: [RTrak] Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 02:34:55 UTC
From: Scott Miller
Topic: 205 Message: 218

> On a lighter note, we bought a 5x8' enclosed trailer for hauling
> stuff to shows, so now we can carry even more crap with us than
> before ;o) You don't realize how much of a pain an open truck bed is
> until you have to leave the truck alone long enough to go to the
> bathroom, while on a trip to/from a show.

Bringing it to Dayton? I'll help you fill up some of that space. =]
Drayage fees at Hara are steep, and they want everything palletized.

As for drowning in emails - welcome to my world. =]

Scott
N1VG

219. Re: [RTrak] Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 04:52:39 UTC
From: Tapio Sokura
Topic: 205 Message: 219

Keith VE7GDH wrote:
> * course / speed doesn't work if enabled - it simply isn't included
> in the beacon
> * send date / time doesn't work if enabled - again, it just isn't
> transmitted.

It just occurred to me that NMEA GPGGA doesn't contain course/speend and a full timestamp (it does countain the time of day). GPRMC has both course/speed and a full timestamp. Could it be that GPRMC is not being sent by the GPS receiver for some reason? If a GPS receiver is configured to output more NMEA sentences than it can reliably output every second (at 4800 bps), some units automatically switch to sending the sentences every two seconds. But some keep the one second interval and just skip over sending some sentences.

Tapio

220. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-17 02:54:11 UTC
From: Keith VE7GDH
Topic: 171 Message: 220

Jason KE4NYV wrote...

> So far, you are the only one that has reported this specific
> problem. As I stated before, we noted that our beta units would get
> warm during GPS acquisition, but then would cool down to a normal
> temp in regular tracking mode.

I don't know if no-one else is reporting this because no-one else has the problem or because no-one else has measured current consumption. With the RTrak sealed up, it takes a while before I can notice that it is "warmer than usual". With a "Watt's Up" meter inline, it's easy for me to see if it's drawing about 130 mA or if it's drawing 340-350 mA. With it opened up, it's more than apparent after just a few seconds that the LM317 is running hot. When it is running normally with a total draw (and presumably something like 50 mA or so going through the LM317) the regulator is barely warm to touch.

> I know we have one test unit that was powered and ran continuously
> for at least 48 hours. I did experience it get warm during acquire
> time.

I don't think I've ever had it running 48 hours continuously, but it's probably ran for 10 5o 24 hours on a few occasions. The abnormal current flow only seems to happen if the RTrak is powered down and then powered on again in less than a minute.

> One thing we were worried about in the early design stages was the
> fact that the copernicus cannot keep it's catalog when powered down,
> unless there is a backup battery and it is put into a standby mode.
> This was not an option because the OT1+ it busy doing plenty other
> things. This turned out to be a short worry because we found that
> the typical lock time from cold power up was ~30 seconds. Pretty
> good in my book! We have come a far way from the old days of 5
> minute lock times, with a full sky view and laying the receiver flat
> on a stable surface (I know, my Garmin 38 was exactly like this).

I've sometimes had longer lock-up times, but only when it has been inside (although near some large windows) while the roof has been wet. Outdoors, it locks up in about 30 seconds. No complaints there from here either!

> Yes, the tab is the output, but the board is soldermasked and should
> not cause a problem with shorting. I made sure that the part I used
> in EagleCAD did NOT have the tab area exposed for this reason.

OK... sounds like I'm worrying needlessly there and should trust the "green stuff" to keep them separated!

> Like I said, the LM317 in a TO220 case is good for 1 amp. So neither
> my readings or yours have reached even half of that. For that
> reason, the heat has not been a problem in my testing. I agree that
> if yours in staying hot constantly, there is a chance there is
> something wrong with the regulator in your RTrak.

I'm sure with just 50 mA or so going into the GPS receiver, it's well within limits. When the current consumption is abnormal, I presume the extra current is going into the LM317 because that's the only component that is running hot. It may or may not be within limits for not having a heat sink, but it's enough to burn a finger if you leave it on there for a second or more. When the total draw is about 130 mA (at least going by my meter) it's barely warm to touch. Again, it only seems to do this if it's been powered on and then power cycled. I've never caught it drawing the abnormal current if it's been off for more than a minute and then powered on. Even if the LM317 can sustain the kind of heat build-up that I'm seeing, but big thing is battery consumption.

> Keith, feel free to ship it back to me for a replacement regulator and
> full test. I have no problem doing that to make sure you are happy
> with the purchase.

We aren't there yet! I'll wait to see what readings you get and if you can duplicate the problem. If it's just the regulator itself, I've got spares here.

> I am going to sit down tomorrow and do some hard testing and current
> reading. I will post my results when I have something to show.

No rush! I know you have been busy. I'm looking forward to hearing about your readings, but just when you have time to look at it.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

221. Re: [RTrak] Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 06:38:44 UTC
From: Keith VE7GDH
Topic: 205 Message: 221

Jason KE4NYV wrote...

> This brings up a question that someone else asked. What NMEA strings
> are being sent from the Copernicus? Off the top of my head, we
> turned on $GPGGA, $GPRMC, $GPVTG and several more. Basically, I
> turned on every NMEA sentence that was not Trimble specific. While
> monitoring the data, I noticed it was the same sentence set that any
> of my Garmin unit's output.

I just confirmed that the GPS in my RTrak is only outputting $GPGGA and
$GPVTG sentences...

$GPGGA,061834.00,4848.92758,N,12327.32604,W,1,07,1.71,00162,M,-017,M,,*5F
$GPVTG,000.0,T,339.2,M,000.0,N,000.0,K,A*28

I'm just not seeing $GPRMC. Guess this would this explain why (at least
in my unit) it won't beacon course / speed, time stamps and
SmartBeaconing doesn't work.

Is there a command that I can send to the GPS receiver to enable any
missing sentences?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

222. Re: [RTrak] Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 06:51:03 UTC
From: Keith VE7GDH
Topic: 205 Message: 222

Scott N1VG wrote...

> Does someone have a capture from a Copernicus that I can test with? I
> just recently got the GPS chip installed in my RTrak bench test unit,
> but I don't have an antenna on it yet. I've been doing most of the
> testing from a simulator.

I just captured some data from the Copernicus GPS receiver in the RTrak.
I'll send a file to you off-list, but it is as follows... just the
$GPGGA and $GPVTG sentences.

$GPGGA,064945.00,4848.92693,N,12327.32914,W,1,07,1.31,00162,M,-017,M,,*51
$GPVTG,000.0,T,339.2,M,000.0,N,000.0,K,A*28

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

223. Re: [RTrak] Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 06:40:26 UTC
From: Keith VE7GDH
Topic: 205 Message: 223

Jason KE4NYV wrote...

> If you leave the RTrak in "Run" mode, plug your programming
> cable in to the RTrak, null the DB9 end and plug into a computer
> running HyperTerm @ 4800, you will see the raw GPS data dump
> from the RTrak.

Thanks for the info! I'm only seeing $GPGGA and $GPVTG sentences...

$GPGGA,061834.00,4848.92758,N,12327.32604,W,1,07,1.71,00162,M,-017,M,,*5F
$GPVTG,000.0,T,339.2,M,000.0,N,000.0,K,A*28

> I'm sorry I am so behind. We had back to back hamfest weekends and
> we're also trying to get ready for Dayton. No pressure there ;o) We
> are working on the next batch of RTraks as well, so if someone was
> waiting for the second batch, now is the time to order.

No problem - I know you are busy. One task at a time and I'll get this
thing whipped into shape!

> On a lighter note, we bought a 5x8' enclosed trailer for hauling
> stuff to shows, so now we can carry even more crap with us...

The trailer should make things a lot easier when you are travelling to
hamfests. There might even be room in the back for a sleeping bag!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

224. Re: [RTrak] Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 08:01:01 UTC
From: Jon
Topic: 205 Message: 224

> The other thing is hardware. My RTrak draws 130 mA most of
> the time. If
> I power cycle it, the current goes up to 340 mA and the
> LM317 gets very
> hot. I haven't heard of any other RTrak users that have
> seen the same
> symptom. I'm waiting for Jason to post his findings
> about current
> consumption. I also haven't seen anyone else on the
> RTrak list saying
> that SmartBeaconing wasn't working.

I'll try and get my one back over the weekend and check both those assertions... it got 'borrowed' almost as soon as I got it.

de John
EI7IG

_____
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http://uk.promotions.yahoo.com/forgood/

225. Re: [RTrak] Firmware updates

Yahoo group: RTrak
Date: 2008-04-17 14:07:02 UTC
From: Keith VE7GDH
Topic: 205 Message: 225

Tapio OH2KKU wrote...

> Could it be that GPRMC is not being sent by the GPS receiver...

Yes, $GPRMC was not being sent! It was only outputting $GPGGA
and $GPVTG sentences!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

226. NMEA / SmartBeaconing

Yahoo group: RTrak
Date: 2008-04-18 20:02:40 UTC
From: Keith VE7GDH
Topic: 226 Message: 226

I posted previously indicating that my RTrak wasn't beaconing time, course and speed, and that it only beaconed at the fast rate with SmartBeaconing enabled even though it was stationary. With the switch in the RUN position, the NMEA data is available on the programming port, but only for viewing the output of the GPS receiver. Earlier tests showed that the GPS receiver in my RTrak was only sending $GPGGA and $GPVTG sentences. However, it was an easy fix.

I downloaded the Trimble Copernicus configuration program from http://trl.trimble.com/dscgi/ds.py/Get/File-339488/TrimbleMon_V1-06-0pkg.zip. With instructions from Jason, I temporarily connected three wires to the "GTR" pads on the circuit board near the GPS receiver and brought them out to a DE-9 connector. If I had a 3-pin header and an appropriate connector, I would have used a header, but the 3 wires soldered right on the pads did the job. There shouldn't be any need to change it again, so I'll remove the 3 wires shortly. I connected GTR as follows...

RTrak DE-9
G 5
T 3
R 2

With that connected to a serial cable going back to the PC, it was an easy matter to enable the missing NMEA sentences. Per message #6159 posted by Scott N1VG April 10 2008 on the OpenTracker list, it needs GPGGA, GPRMC, or GPGLL sentences. I disabled $GPVTG and enabled $GPRMC and $GPGLL.

I now have the option of enabling the time stamp, as well as having course and speed available, and SmartBeaconing appears to be working properly too. I haven't taken it mobile yet since the update, but it is beaconing properly at the slow rate now.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

227. Re: [RTrak] NMEA / SmartBeaconing

Yahoo group: RTrak
Date: 2008-04-18 21:01:10 UTC
From: Scott Miller
Topic: 226 Message: 227

> GPGGA, GPRMC, or GPGLL sentences. I disabled $GPVTG and enabled
> $GPRMC and $GPGLL.

It should really have GPGGA and GPRMC. GPGLL support is only there for
old models and LORAN-C receivers.

Scott
N1VG

228. Re: [RTrak] NMEA / SmartBeaconing

Yahoo group: RTrak
Date: 2008-04-18 21:04:34 UTC
From: Tapio Sokura
Topic: 226 Message: 228

On Fri, April 18, 2008 23:02, Keith VE7GDH wrote:
> posted by Scott N1VG April 10 2008 on the OpenTracker list, it needs
> GPGGA, GPRMC, or GPGLL sentences. I disabled $GPVTG and enabled
> $GPRMC and $GPGLL.

GPRMC and GPGGA together are sufficient, GPGLL doesn't add anything of value to the mix. GPRMC usually gives you most bang for the buck, namely fix status, lat, lon, speed, course and timestamp. Add GPGGA to that and you get also altitude, more detailed fix status, number of tracked satellites and HDOP. Plus some other not so useful (in aprs) data.

Tapio

229. Re: [RTrak] Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-18 21:43:10 UTC
From: Keith VE7GDH
Topic: 205 Message: 229

Scott N1VG wrote...

> The OT1+ will use RMC, GGA, and GLL, but there's no need for GLL
> if it has either of the others.

and

> Does someone have a capture from a Copernicus that I can test
> with? I just recently got the GPS chip installed in my RTrak bench
> test unit, but I don't have an antenna on it yet. I've been doing
> most of the testing from a simulator.

I sent you about 54 KB of data late on the 16th when it was just putting
out $GPGGA and $GPVTG. I just captured about 205 KB of NMEA data
after it was re-programmed to send GGA, GLL & RMC. Were you still
interested in it? If GLL isn't needed, I'll go back in and disable it.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

230. PacComm unit similar to Rtrak??

Yahoo group: RTrak
Date: 2008-04-18 22:04:08 UTC
From: Stargate
Topic: 230 Message: 230

Hi all,
I have 3 PacComm RF modems that I'm trying to use for APRS.
These look like they were AVL units since they have a GPS receiver board inside them and a Midland 70-201BD UHF data/voice transmitter as well. They seem to be similar to the Rtrak except the internal radio is capable of 5W, they are UHF, and they are physically larger.

From my own research, they look like PacComm model AVLM-H/RF units.

There are 3 units with the model numbers....

1. "Base station" (no GPS receiver board in this one)
2. "Head"
3. "Tail"

Here are a few pictures....

http://mysite.verizon.net/vze1ool9/paccomm/paccomm1.jpg

http://mysite.verizon.net/vze1ool9/paccomm/paccomm2.jpg

http://mysite.verizon.net/vze1ool9/paccomm/paccomm3.jpg

http://mysite.verizon.net/vze1ool9/paccomm/paccomm4.jpg

http://mysite.verizon.net/vze1ool9/paccomm/paccomm5.jpg

Does anyone have any information they can provide about these?
These should make great APRS units if I can figure them out. The Midland radio's
have "9.6kb mod" written on them so they must have already been modified for that
speed. From what I have read, the Midland radio's can be used up to 19k2.

I have talked with PacComm and they are looking for information for me but I thought someone here might be knowledgeable about them.

I hooked them up to my serial port and they seem to take a few common packet commands.

Any interesting ideas or help/info would be appreciated very much!

Thanks,

RoD
KD0XX

231. Re: [RTrak] Re: Firmware updates

Yahoo group: RTrak
Date: 2008-04-19 00:27:58 UTC
From: Scott Miller
Topic: 205 Message: 231

Knowing that it was not sending RMC was really the only piece of information I needed out of that. I think this should be an easy one for Jason to take care of during programming.

Scott

Keith VE7GDH wrote:
> Scott N1VG wrote...
>
>> The OT1+ will use RMC, GGA, and GLL, but there's no need for GLL
>> if it has either of the others.
>
> and
>
>> Does someone have a capture from a Copernicus that I can test
>> with? I just recently got the GPS chip installed in my RTrak bench
>> test unit, but I don't have an antenna on it yet. I've been doing
>> most of the testing from a simulator.
>
> I sent you about 54 KB of data late on the 16th when it was just putting
> out $GPGGA and $GPVTG. I just captured about 205 KB of NMEA data
> after it was re-programmed to send GGA, GLL & RMC. Were you still
> interested in it? If GLL isn't needed, I'll go back in and disable it.
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"
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232. GPS firmware update...

Yahoo group: RTrak
Date: 2008-04-19 13:59:48 UTC
From: Keith VE7GDH
Topic: 232 Message: 232

The RTrak was ticking along OK after enabling the required NMEA sentences. However, I couldn't resist while I had the connector wired into the Copernicus GPS receiver. I grabbed the latest firmware update from Trimble's site and installed it last night. The GPS receiver went from ver 1.05 dated May 23 2005 to ver 2.01 dated Aug 1 2007. What did it add or fix? Dunno. However, the total current draw does seem to have dropped by a few mA. I used to see 130-140 mA. Now it's more like 120-130 mA with some excursions a bit above and below there. The "Watt's Up" meter is also reporting 1.6W most of the time instead of 1.8W, so that's in line with the current drop that I'm seeing. If you want to save a few more mA, there is a jumper inside for disabling the power LED. However, I like flashy and non-flashy lights!

http://trl.trimble.com/dscgi/ds.py/Get/File-339488/TrimbleMon_V1-06-0pkg.zip
http://trl.trimble.com/dscgi/ds.py/Get/File-394128/CopernicusFWupgrade_V2-01-1.zip

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

233. Re: [RTrak] NMEA / SmartBeaconing

Yahoo group: RTrak
Date: 2008-04-19 05:27:20 UTC
From: Keith VE7GDH
Topic: 226 Message: 233

Tapio OH2KKU wrote...

> GPRMC and GPGGA together are sufficient...

Thanks for the info. I did go back a few hours ago and enabled only
$GPRMC and $GPGGA.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

234. Telemetry

Yahoo group: RTrak
Date: 2008-04-19 23:43:44 UTC
From: Joel Maslak
Topic: 234 Message: 234

A couple of questions:

What pin on the 2 row header does the temperature sensor input come out? I assumed it was ADC1, but that doesn't appear to be the case - grounding that pin or setting it to 5 volts results in no changes.

Also, on the firmware for the OT+ in the Rtrak: Is it possible to have some of the other ADC pins (ones not used by the frequency selection switch) send telemetry in the default firmware image? Right now, it appears that channels 3-5 and 7 of the telemetry are, essentially, the position of the switch. Since the switch is a digital input, would it be possible to have what is currently being reported on channels 3 through 5 of the telemetry instead moved to the digital flag section of the telemetry packet, and some unused ADC inputs used for the 3-5 channels?

235. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-20 21:23:50 UTC
From: Keith VE7GDH
Topic: 171 Message: 235

Has anyone else measured the current consumption on their RTrak with a 13.8V supply? This is in regard to the abnormal currents that I'm seeing when it is power cycled. Perhaps because no-one else is reporting this, it is unique to the one that I have. So... what current consumption is everyone else seeing?

Symptoms... RTrak at room temperature. Leave it on long enough for the GPS to get a lock. I used to see 130-140 mA, but since doing a GPS firmware update, I'm only seeing about 120 mA. The problem... power cycle it, and more often than not, current goes up from my "normal" 120 mA to 340 mA. If I leave it powered off for a minute and then back on, current is usually normal. I was set to watch the output of the LM317 with a scope, but I couldn't get it to mis-behave. Thinking that it was because of the cold temperature (unheated garage!) when I had the scope set up, I decided to put it in the freezer for a while. While it was cold, I could power cycle it well over a dozen times without seeing the abnormal current. I let the GPS get a lock each time. After about a dozen and a half cycles, it was coming up to room temperature and I started seeing the higher current again when it was power cycled. However, when I warmed it (on the hearth near a wood heater) it didn't mess up any more than when it was at room temperature. However, I gave it the freezer treatment several times, and each time it behaved until it came up to room temperature. Next step, I'll replace the LM317.

Jason - I noticed that the transmitter is warm to touch. According to the specs, it should only be drawing 1 mA when idle, and 300 mA when transmitting. I'm actually seeing less than that on transmit, but it could be that me meter doesn't react quickly enough. However, with the SRB-MX146 disabled with the "TX disable" switch, my 120 mA current goes down to 50-60 mA which is more like what I would expect for the GPS receiver and the OT+. What "standby" current do see going into an RTrak? The transmitter isn't hot, but it is warm, so there has got to be more than 1 mA going into it all the time... probably more like 60 mA based on my readings. Is there any chance the OT+ isn't telling the transmitter to go into "standby" mode in between transmissions? If the standby current can be dropped from 120 mA to 60 mA, that will nearly double the battery life!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

236. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-20 21:26:13 UTC
From: Scott Miller
Topic: 171 Message: 236

All the OT1+ does to tell it to go into standby is to drop PTT. It should be either transmitting, or not.

Scott

Keith VE7GDH wrote:
> Has anyone else measured the current consumption on their RTrak with a
> 13.8V supply? This is in regard to the abnormal currents that I'm seeing
> when it is power cycled. Perhaps because no-one else is reporting this,
> it is unique to the one that I have. So... what current consumption is
> everyone else seeing?
>
> Symptoms... RTrak at room temperature. Leave it on long enough for the
> GPS to get a lock. I used to see 130-140 mA, but since doing a GPS
> firmware update, I'm only seeing about 120 mA. The problem... power
> cycle it, and more often than not, current goes up from my "normal" 120
> mA to 340 mA. If I leave it powered off for a minute and then back on,
> current is usually normal. I was set to watch the output of the LM317
> with a scope, but I couldn't get it to mis-behave. Thinking that it was
> because of the cold temperature (unheated garage!) when I had the
> scope set up, I decided to put it in the freezer for a while. While it
> was cold, I could power cycle it well over a dozen times without
> seeing the abnormal current. I let the GPS get a lock each time. After
> about a dozen and a half cycles, it was coming up to room temperature
> and I started seeing the higher current again when it was power cycled.
> However, when I warmed it (on the hearth near a wood heater) it didn't
> mess up any more than when it was at room temperature. However, I
> gave it the freezer treatment several times, and each time it behaved
> until it came up to room temperature. Next step, I'll replace the LM317.
>
> Jason - I noticed that the transmitter is warm to touch. According to
> the specs, it should only be drawing 1 mA when idle, and 300 mA when
> transmitting. I'm actually seeing less than that on transmit, but it
> could be that me meter doesn't react quickly enough. However, with the
> SRB-MX146 disabled with the "TX disable" switch, my 120 mA current
> goes down to 50-60 mA which is more like what I would expect for the
> GPS receiver and the OT+. What "standby" current do see going into an
> RTrak? The transmitter isn't hot, but it is warm, so there has got to be
> more than 1 mA going into it all the time... probably more like 60 mA
> based on my readings. Is there any chance the OT+ isn't telling the
> transmitter to go into "standby" mode in between transmissions? If
> the standby current can be dropped from 120 mA to 60 mA, that will
> nearly double the battery life!
>
> 73 es cul - Keith VE7GDH

> --
> "I may be lost, but I know exactly where I am!"
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237. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-20 22:31:44 UTC
From: Keith VE7GDH
Topic: 171 Message: 237

Scott N1VG wrote...

> All the OT1+ does to tell it to go into standby is to drop PTT. It
> should be either transmitting, or not.

Thanks for the info. I was making an assumption there. Perhaps Jason can comment on the apparent extra 60 mA going into the transmitter all of the time. The specs for it indicate 1 mA on standby and 300 mA on transmit. I'm seeing 60 mA less current when the transmitter is disabled.

Scott - how much current do you see going into your RTrak?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

238. RTrak question

Yahoo group: RTrak
Date: 2008-04-21 03:54:50 UTC
From: Cliff Boand
Topic: 238 Message: 238

I've seen two conditions on my RTrak. When I first got it, and programmed it (smart beaconing), it seemed to work ok, and my local digi picked me up ok, but the unit got warm to the touch. I reprogrammed (same setup), and this time the unit seemed to work, but the local digi never picked me up, as far as I can tell. Also, the unit did not get warm, no matter how long I left it on.
So tonight, I tried it again, from home, with a 90 sec beacon interval. It beacons, but the packet sounds "short", and doesn't get digi'd. AND the unit gets noticeably warm. Should I reload the config file?
Thanks in advance,
Cliff WA0JTW

239. Rtrak: GPS Settings incorrect and hot to touch - at times

Yahoo group: RTrak
Date: 2008-04-21 04:19:36 UTC
From: Andrew
Topic: 239 Message: 239

Jason,

My RTrak also appears to have the 'wrong' NMEA settings programmed into the GPS.

Are you happy with customers opening up, soldering wires and reprogramming the devices to make them work properly as Keith has done? What happens if something goes wrong in this process and the thing dies?

My GPS did take a long time to get its first fix - around 2 hours. This could be to do with it needing to get a new almanac due to starting it up on the other side of the world (Melbourne Australia). Now it fires up in 15-30 seconds from cold.

My RTrak also runs quite hot at times - usually when running in the car of 13.8 Volts - seems to be OK for temperature when running of 9xAA cells. I'll need to experiment some more to be definitive. I'll borrow an IR camera from work and see where the heat is coming from.

Andrew

240. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-21 05:42:29 UTC
From: Joel Maslak
Topic: 171 Message: 240

On Apr 20, 2008, at 3:23 PM, Keith VE7GDH wrote:
> Has anyone else measured the current consumption on their RTrak with a
> 13.8V supply? This is in regard to the abnormal currents that I'm
> seeing
> when it is power cycled. Perhaps because no-one else is reporting
> this,
> it is unique to the one that I have. So... what current consumption is
> everyone else seeing?
>

Did it today, in the camper. Supply voltage is typically around 13V,
not quite 13.8V.

When I power cycle it, I get about 100 mW current draw for a few
seconds, then it drops down to 80 mW or so for receive. Transmit is
something over 250 mW (my meter only goes up to 250 mW), but not
enough to blow the meter's fuse...

241. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-21 14:05:10 UTC
From: Keith VE7GDH
Topic: 171 Message: 241

Joel (callsign?) wrote...

> Did it today, in the camper. Supply voltage is typically around 13V,
> not quite 13.8V.
>
> When I power cycle it, I get about 100 mW current draw for a few
> seconds, then it drops down to 80 mW or so for receive. Transmit is
> something over 250 mW (my meter only goes up to 250 mW), but not
> enough to blow the meter's fuse...

I'm using a "Watt's Up" meter. I'm seeing about 120 mA which at 13.8V is about 1.7 watts constantly. Before I did the GPS firmware update, it was more like 130-140 mA. When I power-cycle it, the abnormal current is 340 mA. Your 100 mW seems low. At 13V that would be about 8 mA. Could you please conform your figures? Are you sure that isn't mA instead of mW?

I'm also seeing a 60 ma reduction in current when I disable the transmitter. If the GPS receiver is about 30 mA and the OT+ is about 20 mA, I wouldn't have expected the current to be much more than 60 mA or so. The transmitter specs seem to indicate 1 mA on standby. Perhaps Jason could comment. Is the schematic available yet?

PS - I "puffed up" a 1300 mAh LiPO battery yesterday after about 4 hours. Current looked normal when it was connected, but it was then left un-attended for a while. When I returned, the battery was stone dead and ruined. Ideally, I should have a low voltage cut-out circuit between the battery and the RTrak, but it should have been good for a few more hours.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

242. Re: [RTrak] Rtrak: GPS Settings incorrect and hot to touch - at times

Yahoo group: RTrak
Date: 2008-04-21 16:36:51 UTC
From: Keith VE7GDH
Topic: 239 Message: 242

Andrew (callsign?) wrote...

> My RTrak also appears to have the 'wrong' NMEA settings programmed
> into the GPS.
>
> Are you happy with customers opening up, soldering wires and
> reprogramming the devices to make them work properly as Keith has
> done? What happens if something goes wrong in this process and the
> thing dies?

I can't speak for Jason, but he gave me the "OK" to go ahead and update my GPS settings. It was an easy procedure, and I much preferred it to sending it back to get it done. I added $GPRMC but then went back and updated the GPS firmware and 2nd time around, had just $GPGGA and $GPRMC enabled.

> My RTrak also runs quite hot at times - usually when running in
> the car of 13.8 Volts - seems to be OK for temperature when running
> of 9xAA cells. I'll need to experiment some more to be definitive.
> I'll borrow an IR camera from work and see where the heat is coming
> from.

This is the one that concerns me. With a total "standby" current of 120 mA or so (after updating the GPS firmware) the transmitter seems to be drawing 60 mA all of the time. The radio specs indicate 1 mA on standby. I suspect you will find some heat given off by the transmitter and a lot by the LM317 if it's doing the same thing that mine is. I was all prepared to swap it until I started seeing other reports of them running hot. I'll probably still go ahead and do that just to rule out the LM317 itself. There appear to be only four other components related to the LM317... two resistors in a voltage divider and two bypass caps. I don't have an infrared camera here, but I have a finger that is capable of detecting temperatures that are too hot to touch - hi! On the outside of the case, it's only warm. It's with a finger right on the LM317 that it's apparent where it's coming from.

We have one of the niftiest pieces of APRS hardware going. The missing NMEA sentence is an easy fix. Getting the "toasty" symptoms out of the way will make it a real winner. I think the only thing that could top it would be a Tracker2 and a transceiver in it instead of just a transmitter... unless we are talking about HamHUDs!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

243. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-22 01:23:40 UTC
From: Joel Maslak
Topic: 171 Message: 243

On Apr 21, 2008, at 8:05 AM, Keith VE7GDH wrote:
> I'm using a "Watt's Up" meter. I'm seeing about 120 mA which at
> 13.8V is
> about 1.7 watts constantly. Before I did the GPS firmware update,
> it was
> more like 130-140 mA. When I power-cycle it, the abnormal current
> is 340
> mA. Your 100 mW seems low. At 13V that would be about 8 mA. Could you
> please conform your figures? Are you sure that isn't mA instead of mW?
>

Yep, wrong units. I meant mA.

244. Software & Hardware Problems

Yahoo group: RTrak
Date: 2008-04-22 03:59:46 UTC
From: RobertCGRO
Topic: 244 Message: 244

Well, from what I've been reading in the posts, this RTrak has some hardware and software problems out of the box.

Right now, my transmitter has somehow switched itself down to milliwatt power out instead of the healthy 600mW that it had yesterday.

All I did today was update the firmware and play with the various program settings. Then I noticed after making a change and update that my RTRak 2m transmit signal dropped to almost 0 mW.

Is there anyway that the software can switch the transmitter into a zero power mode or what? I can't see how the transmitter could have blown up being programmed and then switched to run mode. Power antenna connections hadn't changed from just before it was working fine.

I ran the Tuning/Diagnostics option to see if there was something there to help me, but all I could see was a temperature reading varying from 80-105! and testing of the LEDs.

I check the onboard transmitter to see if it was seated properly and I can't see anything amiss on the board that would indicate some kind of damaged components.

So, now what do I do now? I assume that there's some kind of warranty or exchange.

73,
Robert, VA3ROM

245. Re: [RTrak] Software & Hardware Problems

Yahoo group: RTrak
Date: 2008-04-22 12:33:27 UTC
From: Jason Rausch
Topic: 244 Message: 245

--- RobertCGRO <robertcgro@...> wrote:

> Well, from what I've been reading in the posts, this
> RTrak has some
> hardware and software problems out of the box.

Well, I don't want to jump to conclusions. There are
a few isolated units out there acting differently than
any of the test units that we ran for months.

>
> Right now, my transmitter has somehow switched
> itself down to
> milliwatt power out instead of the healthy 600mW
> that it had
> yesterday.

How are you checking power? Have you verified your
cables? Meter? just looking at all variables.

>
> All I did today was update the firmware and play
> with the various
> program settings. Then I noticed after making a
> change and update
> that my RTRak 2m transmit signal dropped to almost 0
> mW.

Updating should not have affected the transmitter. Do
you have a frequency counter, can you verify the
transmitter is on frequency? When you updated, did
you make sure to use the RTrak specific firmware?

>
> Is there anyway that the software can switch the
> transmitter into a
> zero power mode or what? I can't see how the
> transmitter could have
> blown up being programmed and then switched to run
> mode. Power
> antenna connections hadn't changed from just before
> it was working
> fine.
>

The RUN/PROG switch simply cuts power to the GPS and
isolates it from the data/programming bus. This is to

make sure you can read the internal OT1+ without any
interuption or draw on the bus.

> I ran the Tuning/Diagnostics option to see if there
> was something
> there to help me, but all I could see was a
> temperature reading
> varying from 80-105! and testing of the LEDs.

Please ignore the temp readings. The SMT OT1+ does
not have the LM337 temp sensor, so it is reading
false. I need to add this to the user's manual.

> So, now what do I do now? I assume that there's some
> kind of warranty
> or exchange.

Yes, we will warranty or exchange the unit, if failed.
Look for an email sent directly to you.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

246. Re: Software & Hardware Problems

Yahoo group: RTrak
Date: 2008-04-22 13:38:59 UTC
From: RobertCGRO
Topic: 244 Message: 246

My technician friends have the proper gear and experience and they have concluded that the transmitter unit is on frequency and barely eching out a microwattwatt or two and properly connected. My D7 can pick up and decode the APRS packet coming from the RTrak if I'm within a few feet of its antenna. I only have your software to do the programming.

It was working fine until I tried out the Power Control functions Enable and Active Low to see what they did. After that the transmitter power went down to next to nothing. I'm more inclined to think that the software is the problem since that 's what was being updated and modified just prior to the problem happening.

Other than for switching from PROG to RUN mode and disconnecting the power and reconnecting the power, nothing else was out of the ordinary occured. I received your direct email and since you didn't say whether or not the transmitter's power out put could be controlled via software then it must always be set at 500mW or a tad more?

Anyway, everything else appears okay and since my D7 can pickup and decode the packet from the RTrak other than the extremely low power output, I'm suspecting somethings amiss with the transmitter or the software if the Power Control settings did something.

Otherwise, I guess if there nothing else that I can do, I'll have to ship the unit back, but I'd prefer to just send back the transmitter module, if what I've explained indicates that that's the only problem.

73,
Robert

> How are you checking power? Have you verified your
> cables? Meter? just looking at all variables.
>
>
> Updating should not have affected the transmitter. Do
> you have a frequency counter, can you verify the
> transmitter is on frequency? When you updated, did
> you make sure to use the RTrak specific firmware?
>

247. Re: [RTrak] Software & Hardware Problems

Yahoo group: RTrak
Date: 2008-04-22 13:58:04 UTC
From: Keith VE7GDH
Topic: 244 Message: 247

Robert VA3ROM wrote...

> Well, from what I've been reading in the posts, this RTrak has
> some hardware and software problems out of the box.

Actually, I've been making the most noise about that, but I'm also one of the biggest supporters of the RTrak. Yes, my GPS wasn't sending $GPRMC but it was an easy fix. Jason offered to take care of it but I preferred to do it myself. The hardware problem of current consumption and my LM317 will be taken care of one way or the other.

> Right now, my transmitter has somehow switched itself down to
> milliwatt power... out instead of the healthy 600mW that it had
> yesterday.

That doesn't sound too good. I'm sure Jason will do whatever is necessary.

> I ran the Tuning/Diagnostics option to see if there was something
> there to help me, but all I could see was a temperature reading
> varying from 80-105! and testing of the LEDs.

What do you mean by "a temperature reading varying from 80-105"?

> I check the onboard transmitter to see if it was seated properly and
> I can't see anything amiss on the board that would indicate some kind
> of damaged components.

When you measured the power out at 600 mW, how long did you have it transmitting for?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

248. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-23 17:08:44 UTC
From: Jon
Topic: 171 Message: 248

Ok,

Apologies for my 'slowness' in getting around to this.

I'm also using a 'watts up' meter. I switched on the Rtrack in 'run' mode, its currently showing 0.28A at 14.15 Volts.

After a few mins I switched on 'pgm' and current dropped to 0.04A

I switched back to 'run' again, GPS has lock (green flash) and the consumption is 0.07A

I've to go dig a hole in the garden, so I'll let it run awhile.

AFAIK this rtrak is the same as when it was delivered to me.

Regards
de John
EI7IG

--- On Mon, 21/4/08, Keith VE7GDH <ve7gdh@...> wrote:

> From: Keith VE7GDH <ve7gdh@...>
> Subject: Re: [RTrak] Re: toasty...
> To: rtrak@yahoogroups.com
> Date: Monday, 21 April, 2008, 3:05 PM
> Joel (callsign?) wrote...
>
> > Did it today, in the camper. Supply voltage is
> typically around 13V,
> > not quite 13.8V.
> >
> > When I power cycle it, I get about 100 mW current draw
> for a few
> > seconds, then it drops down to 80 mW or so for
> receive. Transmit is
> > something over 250 mW (my meter only goes up to 250
> mW), but not
> > enough to blow the meter's fuse...
>
> I'm using a "Watt's Up" meter. I'm
> seeing about 120 mA which at 13.8V is
> about 1.7 watts constantly. Before I did the GPS firmware
> update, it was
> more like 130-140 mA. When I power-cycle it, the abnormal
> current is 340
> mA. Your 100 mW seems low. At 13V that would be about 8 mA.
> Could you

> please conform your figures? Are you sure that isn't mA
> instead of mW?
>
> I'm also seeing a 60 ma reduction in current when I
> disable the
> transmitter. If the GPS receiver is about 30 mA and the OT+
> is about 20
> mA, I wouldn't have expected the current to be much
> more than 60 mA or
> so. The transmitter specs seem to indicate 1 mA on standby.
> Perhaps
> Jason could comment. Is the schematic available yet?
>
> PS - I "puffed up" a 1300 mAh LiPO battery
> yesterday after about 4
> hours. Current looked normal when it was connected, but it
> was then left
> un-attended for a while. When I returned, the battery was
> stone dead and
> ruined. Ideally, I should have a low voltage cut-out
> circuit between the
> battery and the RTrak, but it should have been good for a
> few more
> hours.
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"

Sent from Yahoo! Mail.
A Smarter Email http://uk.docs.yahoo.com/nowyoucan.html

249. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-23 20:29:57 UTC
From: Jon
Topic: 171 Message: 249

back in just now.. its flickering between 0.05 and 0.05A.
Rtrak is at room temp.
John

--- On Wed, 23/4/08, Jon <c0j_1999@...> wrote:

> From: Jon <c0j_1999@...>
> Subject: Re: [RTrak] Re: toasty...
> To: RTrak@yahoogroups.com
> Date: Wednesday, 23 April, 2008, 6:08 PM
> Ok,
>
> Apologies for my 'slowness' in getting around to
> this.
>
> I'm also using a 'watts up' meter. I switched
> on the Rtrack in 'run' mode, its currently showing
> 0.28A at 14.15 Volts.
>
> After a few mins I switched on 'pgm' and current
> dropped to 0.04A
>
> I switched back to 'run' again, GPS has lock (green
> flash) and the consumption is 0.07A
>
> I've to go dig a hole in the garden, so I'll let it
> run awhile.
>
> AFAIK this rtrak is the same as when it was delivered to
> me.
>
> Regards
> de John
> EI7IG
>
>
>
>
> --- On Mon, 21/4/08, Keith VE7GDH <ve7gdh@...>
> wrote:
>
> > From: Keith VE7GDH <ve7gdh@...>
> > Subject: Re: [RTrak] Re: toasty...
> > To: rtrak@yahoogroups.com
> > Date: Monday, 21 April, 2008, 3:05 PM

> > Joel (callsign?) wrote...
> >
> > > Did it today, in the camper. Supply voltage is
> > typically around 13V,
> > > not quite 13.8V.
> > >
> > > When I power cycle it, I get about 100 mW current
> draw
> > for a few
> > > seconds, then it drops down to 80 mW or so for
> > receive. Transmit is
> > > something over 250 mW (my meter only goes up to
> 250
> > mW), but not
> > > enough to blow the meter's fuse...
> >
> > I'm using a "Watt's Up" meter.
> I'm
> > seeing about 120 mA which at 13.8V is
> > about 1.7 watts constantly. Before I did the GPS
> firmware
> > update, it was
> > more like 130-140 mA. When I power-cycle it, the
> abnormal
> > current is 340
> > mA. Your 100 mW seems low. At 13V that would be about
> 8 mA.
> > Could you
> > please conform your figures? Are you sure that
> isn't mA
> > instead of mW?
> >
> > I'm also seeing a 60 ma reduction in current when
> I
> > disable the
> > transmitter. If the GPS receiver is about 30 mA and
> the OT+
> > is about 20
> > mA, I wouldn't have expected the current to be
> much
> > more than 60 mA or
> > so. The transmitter specs seem to indicate 1 mA on
> standby.
> > Perhaps
> > Jason could comment. Is the schematic available yet?
> >
> > PS - I "puffed up" a 1300 mAh LiPO battery
> > yesterday after about 4
> > hours. Current looked normal when it was connected,
> but it

> > was then left
> > un-attended for a while. When I returned, the battery
> was
> > stone dead and
> > ruined. Ideally, I should have a low voltage cut-out
> > circuit between the
> > battery and the RTrak, but it should have been good
> for a
> > few more
> > hours.
> >
> > 73 es cul - Keith VE7GDH
> > --
> > "I may be lost, but I know exactly where I
> am!"
>
>
>
> _____
> Sent from Yahoo! Mail.
> A Smarter Email http://uk.docs.yahoo.com/nowyoucan.html

_____
Sent from Yahoo! Mail.
A Smarter Email http://uk.docs.yahoo.com/nowyoucan.html

250. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-23 20:43:50 UTC
From: Keith VE7GDH
Topic: 171 Message: 250

John EI7IG wrote...

> I'm also using a 'watts up' meter. I switched on the RTrak in 'run'
> mode, its currently showing 0.28A at 14.15 Volts. After a few mins I
> switched on 'pgm' and current dropped to 0.04A. I switched back to
> 'run' again, GPS has lock (green flash) and the consumption is 0.07A.

Hmmm... so it's not just my RTrak that's doing this, but your symptoms are slightly different than mine. My "high current" is 340 mA although I have seen 280 mA at times. I've never seen it pull 40 mA. I did see 60 mA with the transmitter disabled by the on-board switch. The typical current I see is...

* power it on... 120 mA (was more before GPS firmware update)
* power cycle it... 340 mA - LM317 runs hot
* power cycle it... still 340 mA
* leave it off for a minute and power it on, usually 120 mA.
* transmitter mildly warm, apparently drawing 60 mA all of the time.

The specs for the transmitter are 1 mA on standby, so it would be logical for it to normally draw ~ 50-60 mA and an extra 200-300 mA on transmit. The specs indicate 300 mA for the transmitter, but at 500 mW out, I would expect a bit less than 300 mA for it.

We should hear back from Jason shortly about what current consumption he is seeing, and as far as I'm concerned, these are just "start up" glitches and have every reason to believe that Jason will get this straightened out... soon.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

251. Re: [RTrak] Re: toasty...

Yahoo group: RTrak
Date: 2008-04-23 22:58:15 UTC
From: Keith VE7GDH
Topic: 171 Message: 251

Jon EI7IG wrote...

> back in just now.. its flickering between 0.05 and 0.05A.
> Rtrak is at room temp.

At 50 mA, that's lower than I am seeing. As mentioned before, I normally see 120 mA (was 130-140 mA before the GPS firmware update) and 340 mA when it is acting up. I still think my 120 mA is 60 mA than it needs to be as the transmitter specs claim only 1 mA on standby. Eagerly awaiting word from Jason on this!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

252. Re: Rtrak: GPS Settings incorrect and hot to touch - at times

Yahoo group: RTrak
Date: 2008-04-27 11:43:38 UTC
From: Andrew
Topic: 239 Message: 252

Good news!

Thanks to Keith's 'instructions' in previous posts I have also managed to reprogram the trimble GPS (connect a DB9 to the GPS pads on the Rtrak board, download the Trimble software, and set the GPS to output GGA and RMC Sentences). This has corrected all the problems I've being having with with Smart Beaconing and speed and course data.

The issue with heat still persists and seems to be in the regulator area. Only happens occasionally. Time for more research.

-Andrew
agmatthews@...

--- In RTrak@yahoogroups.com, "Andrew" <agmatthews@...> wrote:
>
> Jason,
>
> My RTrak also appears to have the 'wrong' NMEA settings programmed
> into the GPS.
>
> Are you happy with customers opening up, soldering wires and
> reprogramming the devices to make them work properly as Keith has
> done? What happens if something goes wrong in this process and the
> thing dies?
>
> My GPS did take a long time to get its first fix - around 2 hours.
> This could be to do with it needing to get a new almanac due to
> starting it up on the other side of the world (Melbourne Australia).
> Now it fires up in 15-30 seconds from cold.
>
> My RTrak also runs quite hot at times - usually when running in the
> car of 13.8 Volts - seems to be OK for temperature when running of
> 9xAA cells. I'll need to experiment some more to be definitive. I'll
> borrow an IR camera from work and see where the heat is coming from.
>
> Andrew
>

253. NTIA approval for Rtrak

Yahoo group: RTrak
Date: 2008-05-05 12:57:35 UTC
From: usna71
Topic: 253 Message: 253

Jason:
I am very interested in the Rtrak for our Civil Air Patrol squadron, but it does not appear to meet NTIA specs, at least as far as I can tell from this note from Juergen that I don't fully understand. Can you interpret and tell us if there is a way it can be made to meet specs?

"The SRB-MX146 meets the spurious emission requirement but for harmonics you will need an external low pass filter to meet the -70dBc. On it's own it is -45dBc (usually quite a bit better). Stability on the parts we measured would meet the ±2.5ppm but we spec it at ±5ppm as we don't want to temperature test each and every unit. The digital injection modulation requires a reference oscillator with sufficient tuning range. These are not as stable as we would like them to be and the remaining temperature drift is compensated with the on-board thermometer. This can be set extremely accurate but as the crystal oscillators vary it isn't a guarantee to always be within your limits, we only have a fixed compensation curve.

73, Juergen"

thanks,
Bill, KB1MOV

254. RPC Electronics as Dayton Hamvention 2008

Yahoo group: RTrak
Date: 2008-05-15 02:09:28 UTC
From: Jason Rausch
Topic: 254 Message: 254

RPC Electronics will be at the 2008 Dayton Hamvention this weekend along with Argent Data Systems in booths 503-505. We will have RTraks APRS All-In-One trackers on hand for sale along with all of our regular Garmin GPS Cables, Kenwood Cables and tracker interface cables.

For the first time, we are offering a starting line of cables to interface your Garmin GPS receivers to Icom D-Star radios. So far, we have cables for the round four pin models, serial eTrex models (non-color) and Foretrex models with a 3/32" (2.5mm) stereo jack.

We have new and improved serial devices. The SerialStat has been given a redesign for a slimmer look. We will also have out new RS232 patcher adapters. We are offering two versions. One with 0.1" headers for wire wrapping or a solder pad version for permanant adapters. The solder pad version comes with a double-ended DB9 housing.

We have been working on a new HamHUD with a built-in TNC and we will have a prototype on display. We're looking for some good feedback on this design.

We will also be showing a brand new, non APRS/Packet product simply called the Mic Switcher. This is a tiny PIC controlled mic switcher for dual radios and a single microphone. Come by and check it out for more details.

Please drop by and say hi. We can't wait to see old friends and meet new ones. Looking forward to seeing everyone there!

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

255. Red light flashing...

Yahoo group: RTrak
Date: 2008-06-02 14:19:45 UTC
From: noid1037
Topic: 255 Message: 255

The R-trak is a great little item, when its working. hopefully someone can figure this out. The R-Trak came back from Jason the other day. Opened the box and plugged the unit to the GPS SMA, 2 M 5/8 wave antenna and the power jack. The unit was had the flashing red LED for GPS lock-on. I unplugged it after 30 minutes and plugged it back in, waited. Still didnt.

Then Sunday morning, I repeated the unplug-plug back in and it locked on.

This morning, I accidently hit the prog/run switch and lost 'sync'.

All morning I have tried to plug-unplug. I did connect it the R-trak programming cable and all looks the same.

The GPS antenna is on located on the trunk lid of a Caddillac. It worked once and now it isnt. How many others have GPS 'sync' problems?

The unit was sent back to Jason two weeks ago becuase it wouldnt 'sync' up. He updated the GPS firmware and re-configured it.

Why would it work one day, then by accident I hit the switch and now it wont sync up?

Any help would be appreciated!

Thanks all!
Noid Wilson
Tampa
N9RLR
N9RLR-2

256. Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-02 19:59:47 UTC
From: Jason Rausch
Topic: 255 Message: 256

Dion,

What kind of antenna situation are you using? Do you have a decent view of the sky with it? When it came back to me I first verified the GPS sentence configuration. I then tested it for a lock by setting YOUR antenna on my concrete patio and running the cable inside. I had a full lock within 40 seconds of powering the unit up.

Please just make sure the antenna is in a good position to see the sky. The receiver is very sensitive and I have found that it is very forgiving with poor view, but it has to see at least some of the sky.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "noid1037" <dwilson@...> wrote:
>
> The R-trak is a great little item, when its working. hopefully
> someone can figure this out. The R-Trak came back from Jason the
> other day. Opened the box and plugged the unit to the GPS SMA, 2 M
> 5/8 wave antenna and the power jack. The unit was had the flashing
> red LED for GPS lock-on. I unplugged it after 30 minutes and
plugged
> it back in, waited. Still didnt.
>
> Then Sunday morning, I repeated the unplug-plug back in and it
locked
> on.
>
> This morning, I accidently hit the prog/run switch and lost
'sync'.
>
> All morning I have tried to plug-unplug. I did connect it the R-
trak
> programming cable and all looks the same.
>
> The GPS antenna is on located on the trunk lid of a Caddillac. It
> worked once and now it isnt. How many others have GPS 'sync'
problems?
>
> The unit was sent back to Jason two weeks ago becuase it
> wouldnt 'sync' up. He updated the GPS firmware and re-configured
it.
>
> Why would it work one day, then by accident I hit the switch and

now
> it wont sync up?
>
> Any help would be appreciated!
>
> Thanks all!
> Noid Wilson
> Tampa
> N9RLR
> N9RLR-2
>

257. "Toasty" GPS Regulator Fix

Yahoo group: RTrak
Date: 2008-06-02 20:18:24 UTC
From: Jason Rausch
Topic: 257 Message: 257

After passing many emails back and fourth with several RTrak users, as well as Trimble GPS, we have determined there is a deffinant problem with the RTrak getting very warm. The problem is caused by the GPS drawing too much current through the LM317 voltage regulator and the heat is dissapated through the metal case, making it very hot to the touch.

Trimble acknowledges the probelem as a design flaw with the Copernicus and does not offer to fix the problem themselves. One of their engineers informed me of a data note on the issue stating the power supply must be gradually brought up to keep the GPS from going into a funky mode that causes the overdraw of current.

The fix is to place a 100uF electrolytic capacitor across the output of the LM317 regulator and ground. I have purchased 100 of these caps to fix the problem on all units that have already been sold. I to do the mod for anyone who wishes to send the unit back to me for repair. I will mod and return at my cost. If you would like to do the mod yourself, I will ship you the cap at my cost. Please contact me off list to have your name added to the shipping list. Lastly, if you have a 100uF cap on hand and wish to do the mod yourself, by all means please do it. Please understand, in either case where you do the mod, I cannot warranty any damage.

Please email a cap shipment request to: rtrak@...

The mod is very simple. After you open the RTrak, you will see the power jack, next a leaded diode (black with silver band) and then the LM317 regulator. The CENTER leg of the regulator is the 3.3V output. The quickest and easiest way I have found to attach the cap is to solder the positive lead of the cap to the center leg of the LM317 and the negative lead to the side tab of the power jack (closest to the programming connector).

PLEASE BE CAREFUL NOT TO SHORT THE CAP'S LEADS AGAINST ANY OTHER COMPONENT!

All units sold up to this point, including any hamfest sales are subject to the fix. UNLESS you have returned your unit for any kind of service in the last couple of weeks. If you are unsure, opening the RTrak and checking the board for an add-on cap near the GPS, will indicate if the mod has been done already or not.

We're very sorry about this problem that some of you have experienced. Some have never seen the problem creep up. I suggest regardless, the mod should be done to all units. From now on, all future units will have this cap included as part of the design.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

258. Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-03 11:19:54 UTC
From: Wilson, Dion
Topic: 255 Message: 258

Jason,

I am using the same antenna I sent with the R-Trakat the time of RMA, the same one that came from the initial order. The GPS antenna is located on the trunk lid of a car, Cadillac Deville. When I opened the trunk this morning and looking on APRS.fi all was working. I was showing up on the network and the light was green. When I get to work the light was flashing red and the last time seen on the network was when I left home.

Yesterday I left work with it working. I had four beacons on the network but in the middle of the bridge, I-275, was my last seen beacon and by the time I got home it was a flashing red LED. There is not an obstruction around there and should it not at some point re-sync? If I did go under an overpass and sat for a minute so for a traffic light to change and then re-appeared in the open would it not re-sync?

It just seems like for no reason while in the wide open expanses it loses 'sync' for GPS.

I can take a picture of the location but imagine the antenna on a trunk lid centered left to right, two to three inches from the edge going into the trunk near the window. The 2-meter antenna on the passenger side corner of the trunk.

Many times during the day I go out to see the sync of the unit. I will unplug it and plug it back in to re-sync. There are times it wont re-sync.

As a side note, I have XM and do not have a problem receiving that signal.

Reply

D 'Noid' Wilson

Frontline Communication

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BAS 2 GHz Relocation Project ENG

Semper Fi

727.580.8603

727.571.3295 FAX

dwilson@... <mailto:dwilson@...>

dwilson@...

dwilson@...m

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of
Jason Rausch
Sent: Monday, June 02, 2008 4:00 PM
To: RTrak@yahoogroups.com
Subject: [RTrak] Re: Red light flashing...

Dion,

What kind of antenna situation are you using? Do you have a decent
view of the sky with it? When it came back to me I first verified
the GPS sentence configuration. I then tested it for a lock by
setting YOUR antenna on my concrete patio and running the cable
inside. I had a full lock within 40 seconds of powering the unit up.

Please just make sure the antenna is in a good position to see the
sky. The receiver is very sensitive and I have found that it is very
forgiving with poor view, but it has to see at least some of the sky.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com> ,
"noid1037" <dwilson@...> wrote:
>
> The R-trak is a great little item, when its working. hopefully
> someone can figure this out. The R-Trak came back from Jason the
> other day. Opened the box and plugged the unit to the GPS SMA, 2 M
> 5/8 wave antenna and the power jack. The unit was had the flashing
> red LED for GPS lock-on. I unplugged it after 30 minutes and
plugged
> it back in, waited. Still didnt.
>
> Then Sunday morning, I repeated the unplug-plug back in and it
locked
> on.
>
> This morning, I accidently hit the prog/run switch and lost
'sync'.
>
> All morning I have tried to plug-unplug. I did connect it the R-
trak
> programming cable and all looks the same.
>
> The GPS antenna is on located on the trunk lid of a Caddillac. It
> worked once and now it isnt. How many others have GPS 'sync'
problems?

>
> The unit was sent back to Jason two weeks ago becuase it
> wouldnt 'sync' up. He updated the GPS firmware and re-configured
it.
>
> Why would it work one day, then by accident I hit the switch and
now
> it wont sync up?
>
> Any help would be appreciated!
>
> Thanks all!
> Noid Wilson
> Tampa
> N9RLR
> N9RLR-2
>

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259. Re: [RTrak] Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-03 23:36:23 UTC
From: Keith VE7GDH
Topic: 255 Message: 259

Dion N9RLR wrote...

> I was showing up on the network and the light was green. When I get to
> work the light was flashing red and the last time seen on the network
> was when I left home.

Do you have a laptop? You could plug in the configuration cable and put a null-modem adapter in between and view the NMEA output from the GPS receiver to try and see what is going on. The switch should be in the RUN position. You could just view the data in a terminal program, or use something like VisualGPS to look at it. Here's a couple of lines of my output. I have only the $GPRMC and $GPGGA sentences enabled.

```
$GPGGA,232710.00,4848.92803,N,12327.32821,W,1,09,1.71,00163,M,-017,M,,*55
$GPRMC,232710.00,A,4848.92803,N,12327.32821,W,000.0,000.0,030608,20.8,E,A*1A
```

Specifically, you are looking for the "A" near the beginning of the RMC sentence. If you see a "V" instead, the GPS receiver doesn't have a lock. Also, can you measure the current that the RTrak is drawing when it isn't transmitting? Perhaps yours needs the "capacitor mod" that Jason just announced.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

260. RE: [RTrak] Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-04 11:09:49 UTC
From: Wilson, Dion
Topic: 255 Message: 260

Keith and group,

The laptop I own does not have a serial port, too new to be installed. I could try it on one of my desktop computers. I would have to buy a null modem and verify the information, Radio Shack has one for $10, and I suppose the quickest way of getting my hands on one. I will review the data hopefully today.

I left work yesterday with a green light. I get home and it's red again. There were two beacons on the network, both within a mile or so of the origination point. Yesterday, the unit was hard cycled (unplugged-plugged) from the power jack multiple times. The car is an un-obstructed view of the sky and the unit does not sync up. This is very similar to my last RMA and sent back to Jason. He upgraded the firmware of the GPS and he stated he had it running for an hour on the bench and was shipped back to me, promptly by the way. I read the profile and saved it to file and that's where we stand. The unit worked fine for a few days and then this current state of operation is consistent. The unit works when it wants to work and there is neither rhyme nor reason to its actual operation.

The unit is getting power directly from the vehicles battery.

Jason would have to comment on the addition of the capacitor since the unit was sent back as RMA and shipped back between the timeframe of Dayton and last week. Jason can comment of line if this mod was performed during the timeframe.

Thanks for the advice I will report back the findings in due time.

Regards,

Noid Wilson

N9RLR-2

Tampa

> I was showing up on the network and the light was green. When I get to
> work the light was flashing red and the last time seen on the network
> was when I left home.

Do you have a laptop? You could plug in the configuration cable and put a null-modem adapter in between and view the NMEA output from the GPS receiver to try and see what is going on. The switch should be in the RUN position. You could just view the data in a terminal program, or use something like VisualGPS to look at it. Here's a couple of lines of my output. I have only the $GPRMC and $GPGGA sentences enabled.

```
$GPGGA,232710.00,4848.92803,N,12327.32821,W,1,09,1.71,00163,M,-017,M,,*5
5
$GPRMC,232710.00,A,4848.92803,N,12327.32821,W,000.0,000.0,030608,20.8,E,
A*1A
```

Specifically, you are looking for the "A" near the beginning of the RMC sentence. If you see a "V" instead, the GPS receiver doesn't have a lock. Also, can you measure the current that the RTrak is drawing when it isn't transmitting? Perhaps yours needs the "capacitor mod" that Jason just announced.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

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261. RTrak behavior

Yahoo group: RTrak
Date: 2008-06-04 03:16:44 UTC
From: Mark Bender
Topic: 261 Message: 261

Folks,

I received the RTrack a few days back, and had only one day before leaving on a business trip. Admittedly, this was only enough time to quickly scan the manual.

I used the config program to program my callsign (kd6not-14), and path (wide2-1) and left everything else (as I recall) as default. I put the unit in my car in place of my 1st generation tracker, which has been working well. Using the supplied GPS antenna, I had some initial red blinks, then the led turned to green blinks, and I couls see a solid red led about every 90 seconds. I assumed this meant the GPS had locked and I was seeing the green 1 pps NMEA string and a transmission every 90 seconds.

I raced into the house where I have a home station running UI-View, and to my surprise I did not see anything.

As I say, I did this all rather quickly, but am I missing some subtle nuance here? It has been a while since I programmed my KPC-3+ as a tracker, so perhaps my path is incorrect, but I looked at the internet and did not see my call gated there either.

Any thoughts? Obviously, when I return home I'll go through everything again, but any hard-earned tips are appreciated.

Thanks,

Mark
KD6NOT

262. Re: [RTrak] RTrak behavior

Yahoo group: RTrak
Date: 2008-06-05 00:37:57 UTC
From: Jason Rausch
Topic: 261 Message: 262

> ...I could see a solid red led
> about every 90 seconds. I assumed this meant the
> GPS had locked and I was seeing the green 1 pps NMEA
> string and a transmission every 90 seconds.

Yes, the unit will fast flash red until a GPS lock.
It will the go to a slow green led flash and a long
solid red for transmit.

> As I say, I did this all rather quickly, but am I
> missing some subtle nuance here? It has been a
> while since I programmed my KPC-3+ as a tracker, so
> perhaps my path is incorrect, but I looked at the
> internet and did not see my call gated there either.

The path should not matter in the case of hearing the
tracker direct, which I assume would be the case here
since you were so close.

>
> Any thoughts? Obviously, when I return home I'll go
> through everything again, but any hard-earned tips
> are appreciated.

Please give it another shot when you return. Also,
make sure that the TX audio level slider in the config
program is up all of the way (to the right). I found
in testing that the transmitter needs some beefy
audio, so cranking up the embedded OT1+ seemed to do
the trick. When I pre-program every RTrak, I load in
a default profile that sets this slider full scale.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

263. RE: [RTrak] Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-05 00:43:05 UTC
From: Jason Rausch
Topic: 255 Message: 263

> The laptop I own does not have a serial port, too
> new to be installed.
> I could try it on one of my desktop computers. I
> would have to buy a
> null modem and verify the information, Radio Shack
> has one for $10, and
> I suppose the quickest way of getting my hands on
> one. I will review
> the data hopefully today.

Do you have access to a USB to Serial adapter? That will work just fine for this test. I think Keith is simply saying to look at the raw GPS data for a lock indication in the NMEA strings.

>
> I left work yesterday with a green light. I get
> home and it's red
> again. There were two beacons on the network, both
> within a mile or so
> of the origination point. Yesterday, the unit was
> hard cycled
> (unplugged-plugged) from the power jack multiple
> times. The car is an
> un-obstructed view of the sky and the unit does not
> sync up. This is
> very similar to my last RMA and sent back to Jason.

I'm not sure what is going on here. I really question the GPS antenna getting a good signal, but I understand that you have the antenna in a good spot on the car. Like I mentioned before, I did about an hour test with your RTrak and it never lost lock. That was with your specific antenna laying in my concrete porch, under an overhang. That was obviously not the best view of the sky, but it held in there during the test.

> He upgraded the
> firmware of the GPS and he stated he had it running
> for an hour on the
> bench and was shipped back to me, promptly by the
> way.

When I upgraded the GPS firmware, I made sure to re-read the config and then re-set it for the proper

NMEA strings.

> Jason would have to comment on the addition of the
> capacitor since the
> unit was sent back as RMA and shipped back between
> the timeframe of
> Dayton and last week. Jason can comment of line if
> this mod was
> performed during the timeframe.

Yes, the mod was done while it was in for service.
Any units coming back for service of any kind will be
automatically modded, if it has not already been done.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

264. RE: [RTrak] Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-05 00:51:51 UTC
From: Curt, WE7U
Topic: 255 Message: 264

On Wed, 4 Jun 2008, Jason Rausch wrote:

> I'm not sure what is going on here. I really question
> the GPS antenna getting a good signal, but I
> understand that you have the antenna in a good spot on
> the car.

It might be in a good spot, but is it getting squished when he
closes the trunk? I remember him saying it was a trunk-mount.

--
Curt, WE7U. archer at eskimo dot com
http://www.eskimo.com/~archer
Lotto: A tax on people who are bad at math. - unknown
Windows: Microsoft's tax on computer illiterates. - WE7U.
The world DOES revolve around me: I picked the coordinate system!"

265. All-in-One GPS and 2-meter transceiver and TNC

Yahoo group: RTrak
Date: 2008-06-05 13:52:12 UTC
From: usna71
Topic: 265 Message: 265

Hello, I am looking for some help reducing the wire nest and complexity of APRS receiving stations. My goal is to have a laptop and a single box with power cable, connection to laptop, and 2-meter antenna. Ideally the receiver is optimized for digital signals and frequency programmed by the laptop.

Does anyone know of such a rig. If not, is there a nice little 2-meter digital receiver that I can strap to a TNC such as a Tracker2?

thanks,
Bill
KB1MOV

266. RE: [RTrak] Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-05 17:37:47 UTC
From: Wilson, Dion
Topic: 255 Message: 266

I think I need to ship this back...I moved the unit from the trunk to the passenger seat. The unit locks in for a few minutes and then 'unsyncs' a few minutes later. I see the flashing green light and the occasional red TX light. Then it will start flashing red with no discernible reason. Both the GPS and 2M antenna run out the sunroof with it OPEN. The power comes from the 12 ashtray plug. Since before it was mounted in the trunk I could not attest to its type of hiccups it was having. I have a USB to DB-9 adapter and will view its data stream as Jason suggested. I don't mind spending some time working on it since in the spirit of the hobby we should be able to solve the issue. But my time is already in short demand to even be messing with this issue. (not a dig!) I will work on over the weekend best I have time available and then make a decision on what can be done.

To inquire about the coax pinch, this is the RG-316 type coax, one of its applications is to be used in trunk mount scenarios. We use this in many GPS and RF applications and have not had this type of pinch issue. Curt, WE7U commented it could be pinching, what other way would you consider the mag mount GPS antenna to be routed?

Reply

D 'Noid' Wilson

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Semper Fi

727.580.8603

727.571.3295 FAX

dwilson@... <mailto:dwilson@...>

dwilson@oshkoshsv.com

dwilson@...

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of Curt, WE7U
Sent: Wednesday, June 04, 2008 8:52 PM
To: RTrak@yahoogroups.com

Cc: archer@eskimo.com
Subject: RE: [RTrak] Re: Red light flashing...

On Wed, 4 Jun 2008, Jason Rausch wrote:

> I'm not sure what is going on here. I really question
> the GPS antenna getting a good signal, but I
> understand that you have the antenna in a good spot on
> the car.

It might be in a good spot, but is it getting squished when he
closes the trunk? I remember him saying it was a trunk-mount.

--
Curt, WE7U. archer at eskimo dot com
http://www.eskimo.com/~archer <http://www.eskimo.com/~archer>
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267. RE: [RTrak] Re: Red light flashing...

Yahoo group: RTrak
Date: 2008-06-05 23:37:58 UTC
From: Curt, WE7U
Topic: 255 Message: 267

On Thu, 5 Jun 2008, Wilson, Dion wrote:

> To inquire about the coax pinch, this is the RG-316 type coax, one of
> its applications is to be used in trunk mount scenarios. We use this in
> many GPS and RF applications and have not had this type of pinch issue.
> Curt, WE7U commented it could be pinching, what other way would you
> consider the mag mount GPS antenna to be routed?

It doesn't sound like the issue, so forget it. It was one
possibility that came to mind that might have explained why it was
working for Jason but not for you.

What else could it be... Voltage drops when transmitting. RF spurs
getting into the GPS and causing it to lose lock (unlikely as the
frequencies are quite separated). Severe GPS multipath at your
testing location.

--
Curt, WE7U. archer at eskimo dot com
http://www.eskimo.com/~archer
Lotto: A tax on people who are bad at math. - unknown
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The world DOES revolve around me: I picked the coordinate system!"

268. Re: RTrak behavior

Yahoo group: RTrak
Date: 2008-06-06 20:20:58 UTC
From: Mark Bender
Topic: 261 Message: 268

Jason,

I am happy to report that I was successful in setting up the RTrak today. I believe you hit the nail on the head - I moved the volume slider down from the maximum position and when I returned it, that seemed to make things happen.

I have successfully gated to the internet, although if truth be told it appears that 0.5 watts into a unity gain antenna may not do the trick in an urban environment. At the moment I have not had the intestinal fortitude to drill a mount into my new car, so I may have to see what alternatives there are to achieving more gain.

Thanks for the help,

Mark
KD6NOT-14

2b.
Re: RTrak behavior
Posted by: "Jason Rausch" lists@... ke4nyv
Wed Jun 4, 2008 5:38 pm (PDT)
> ...I could see a solid red led
> about every 90 seconds. I assumed this meant the
> GPS had locked and I was seeing the green 1 pps NMEA
> string and a transmission every 90 seconds.

Yes, the unit will fast flash red until a GPS lock.
It will the go to a slow green led flash and a long
solid red for transmit.

> As I say, I did this all rather quickly, but am I
> missing some subtle nuance here? It has been a
> while since I programmed my KPC-3+ as a tracker, so
> perhaps my path is incorrect, but I looked at the
> internet and did not see my call gated there either.

The path should not matter in the case of hearing the
tracker direct, which I assume would be the case here
since you were so close.

>
> Any thoughts? Obviously, when I return home I'll go
> through everything again, but any hard-earned tips
> are appreciated.

Please give it another shot when you return. Also, make sure that the TX audio level slider in the config program is up all of the way (to the right). I found in testing that the transmitter needs some beefy audio, so cranking up the embedded OT1+ seemed to do the trick. When I pre-program every RTrak, I load in a default profile that sets this slider full scale.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

269. GPS antenna routing

Yahoo group: RTrak
Date: 2008-06-09 11:28:16 UTC
From: Wilson, Dion
Topic: 269 Message: 269

Jason and group,

I have mentioned I have been having GPS sync/lock problems. A member of the group suggested a coax pinch for the GPS at the trunk location. So I moved the whole setup to the front seat passing the coax runs thru the sunroof while it was open. The system would randomly sync up, sometimes red flashing, sometimes a green light. I could see as I drove if the light was flashing red or green. I would run my fingers over the GPS coax, seems as if the supplied GPS antenna with the R-Trak cannot handle a few closures of the Cadillac trunk lid, the unit can sync up at times when the coax is in the right position now. If I run my fingers over it again it might lose sync.

In other words I need another type of location for the GPS antenna and more than likely I need another GPS antenna.

Any suggestions on a GPS antenna replacement model? I could use the same one supplied but it seems like it wont be reliable due to the internal damage of the coax. I could try to place the new antenna in the back window of the car instead of in the elements past the trunk lid and see how it has a view to the sky.

What are other people doing to route this RG-316 type coax around the vehicle and not get damaged?

Regards,
Noid Wilson
Tampa

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270. Re: [RTrak] GPS antenna routing

Yahoo group: RTrak
Date: 2008-06-09 11:51:16 UTC
From: Jason KG4WSV
Topic: 269 Message: 270

Many modern GPS units are sensitive enough to work fine with the antenna inside the passenger compartment - if it fits your physical installation, try putting it on the dash or the rear deck.

My truck, conveniently enough, had a rubber plug about 1"x2" in the floor board under the rear seat. I cut an X in it and passed all my cables through it. It even stretches enough to pass a PL259.

-Jason
kg4wsv

271. Re: [RTrak] GPS antenna routing

Yahoo group: RTrak
Date: 2008-06-09 15:49:24 UTC
From: Curt, WE7U
Topic: 269 Message: 271

On Mon, 9 Jun 2008, Wilson, Dion wrote:

> I have mentioned I have been having GPS sync/lock problems. A member of
> the group suggested a coax pinch for the GPS at the trunk location.

That was a long-shotj

> I would run my fingers over the GPS
> coax, seems as if the supplied GPS antenna with the R-Trak cannot handle
> a few closures of the Cadillac trunk lid, the unit can sync up at times
> when the coax is in the right position now. If I run my fingers over it
> again it might lose sync.

Glad you found it!

> What are other people doing to route this RG-316 type coax around the
> vehicle and not get damaged?

I can't help you there: I'm monitoring this group just 'cuz it's a
really cool device that I want to know about. My personal setup is
usually a GPS puck that mag-mounts to the vehicle. The cable only
carries power, ground, and serial data so I don't have to worry
about pinching any coax. I can pinch the cable all I want as long
as I have electrical continuity (impedance doesn't matter much).

Is it possible you could install a piece of flexible metal pipe over
the coax to protect it at the pinch point? The kind that has lots
of joints and won't crush?

--
Curt, WE7U. archer at eskimo dot com
http://www.eskimo.com/~archer
Lotto: A tax on people who are bad at math. - unknown
Windows: Microsoft's tax on computer illiterates. - WE7U.
The world DOES revolve around me: I picked the coordinate system!"

272. stable, still in business, what ?

Yahoo group: RTrak
Date: 2008-06-23 02:21:42 UTC
From: Don Pomplun
Topic: 272 Message: 272

Has the RTrak reached a level of expected stability of operation? No recent posts about upgrades/successes except about pinched coax.
The website doesn't seem to have been updated since 6/7, and still talks about "pre-orders" and 6 week waits.
Have things gone tango-uniform? We were just talking about an RTrak being a nice solution for installation on the SS Jeremiah O'Brien so folk could track our cruises on SF Bay.
K2BIO

273. Re: [RTrak] stable, still in business, what ?

Yahoo group: RTrak
Date: 2008-06-23 02:58:55 UTC
From: Jason Rausch
Topic: 272 Message: 273

Don,

We're still here! Just working on getting some of the last capacitor mods out the door. Currently, we have one RTrak package in stock. We will continue to take orders for the next batch. Once we sell out and begin to take orders for the batch, we will be able to give an expected target ship date.

We are in the process of doing some design changes for a possible SAR version. We would like to get some input on a version with a built-in GPS antenna. Most likely a helix type antenna mounted in the same location of the current GPS SMA antenna connector. This would be meant for those wishing to have the RTrak mounted on a chest pack or in a backpack.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- Don Pomplun <BlueFlash@...> wrote:

> Has the RTrak reached a level of expected stability
> of operation? No
> recent posts about upgrades/successes except about
> pinched coax.
> The website doesn't seem to have been updated since
> 6/7, and still
> talks about "pre-orders" and 6 week waits.
> Have things gone tango-uniform? We were just
> talking about an RTrak
> being a nice solution for installation on the SS
> Jeremiah O'Brien so
> folk could track our cruises on SF Bay.
> K2BIO
>
>

274. Re: [RTrak] stable, still in business, what ?

Yahoo group: RTrak
Date: 2008-06-23 02:56:25 UTC
From: Keith VE7GDH
Topic: 272 Message: 274

Don K2BIO wrote...

> Has the RTrak reached a level of expected stability of operation?
> No recent posts about upgrades/successes except about pinched
> coax.The website doesn't seem to have been updated since 6/7,
> and still talks about "pre-orders" and 6 week waits. Have things gone
> tango-uniform? We were just talking about an RTrak being a nice
> solution for installation on the SS Jeremiah O'Brien so folk could
> track our cruises on SF Bay.

The RTrak is a very nice "all in one" solution for a low powered APRS tracker. I would say the answer to your question about stability of operation is a definite yes. Probably there have been no recent posts because some users are happily using them trouble-free. A few are waiting for RTraks to be returned after they were returned to RPC Electronics for some required upgrades.

1) a few needed to have the GPS receiver told to output the correct NMEA sentences. A number of people including myself did the required modification rather than returning for reprogramming.

2) the included GPS receiver needs to have a filter capacitor added to the voltage regulator output so the voltage ramps up more slowly. A number of people including myself added the capacitor rather than returning it for the mod.

3) a few of the embedded transmitters failed... including my own. The replacement transmitter is in the mail and should be here in a few days. The faulty transmitter will be returned to RPC for troubleshooting by Jason or by the manufacturer.

Jason has been very responsive to these start-up glitches. Any owners of affected units were invited to return them for modification. A number of the modified RTraks are in the mail on the way back to the owners. I don't know if that means all are on the way or just some, but I presume that it's the former. Regarding the RPC site not having been updated... Jason can speak for himself, but I know that he was very busy with Dayton... getting ready for it, going there and putting units on display, selling a whole bunch of them, and doing RTrak mods after he got back home. I don't think it is uncommon for new products to need changes. I think that Jason has provided top-notch support and he has certainly got my vote of confidence by providing support when needed. I'm sure he will get his site updated soon to remove the "6 week delivery time" as he has some RTraks in stock.

73 es cul - Keith VE7GDH
--

"I may be lost, but I know exactly where I am!"

275. Re: [RTrak] stable, still in business, what ?

Yahoo group: RTrak
Date: 2008-06-23 14:30:12 UTC
From: Don Pomplun
Topic: 272 Message: 275

Keith -
Thanx for the customer-update. I'm sure there are other lurkers / potential customers in the group who appreciate your input. Running your own business can easily overwhelm.
Don K2BIO

At 07:56 PM 6/22/2008, you wrote:
>Don K2BIO wrote...
>
> > Has the RTrak reached a level of expected stability of operation?
> > No recent posts about upgrades/successes except about pinched
> > coax.The website doesn't seem to have been updated since 6/7,
> > and still talks about "pre-orders" and 6 week waits. Have things gone
> > tango-uniform? We were just talking about an RTrak being a nice
> > solution for installation on the SS Jeremiah O'Brien so folk could
> > track our cruises on SF Bay.
>
>The RTrak is a very nice "all in one" solution for a low powered APRS
>tracker. I would say the answer to your question about stability of
>operation is a definite yes. Probably there have been no recent posts
>because some users are happily using them trouble-free. A few are
>waiting for RTraks to be returned after they were returned to RPC
>Electronics for some required upgrades.
>
>1) a few needed to have the GPS receiver told to output the correct
>NMEA sentences. A number of people including myself did the required
>modification rather than returning for reprogramming.
>
>2) the included GPS receiver needs to have a filter capacitor added to
>the voltage regulator output so the voltage ramps up more slowly. A
>number of people including myself added the capacitor rather than
>returning it for the mod.
>
>3) a few of the embedded transmitters failed... including my own. The
>replacement transmitter is in the mail and should be here in a few days.
>The faulty transmitter will be returned to RPC for troubleshooting by
>Jason or by the manufacturer.
>
>Jason has been very responsive to these start-up glitches. Any
>owners of affected units were invited to return them for modification.
>A number of the modified RTraks are in the mail on the way back to
>the owners. I don't know if that means all are on the way or just some,
>but I presume that it's the former. Regarding the RPC site not having
>been updated... Jason can speak for himself, but I know that he was
>very busy with Dayton... getting ready for it, going there and putting

>units on display, selling a whole bunch of them, and doing RTrak mods
>after he got back home. I don't think it is uncommon for new products
>to need changes. I think that Jason has provided top-notch support
>and he has certainly got my vote of confidence by providing support
>when needed. I'm sure he will get his site updated soon to remove
>the "6 week delivery time" as he has some RTraks in stock.
>
>73 es cul - Keith VE7GDH
>--
>"I may be lost, but I know exactly where I am!"
>
>
>----------
>
>Yahoo! Groups Links
>
>
>

276. RE: [RTrak] stable, still in business, what ?

Yahoo group: RTrak
Date: 2008-06-26 14:29:59 UTC
From: Wilson, Dion
Topic: 272 Message: 276

Jason and Keith and group,

I wanted to give everyone an update on my situation. The R-Trak is working very well. I used the R-Trak in Cleveland and in Raleigh-Durham, NC. There were some transmissions heard on the network.

When I use it in a rental car the setup uses a 1/4 wave mag mount antenna. When in my own car currently there is a 5/8 wave antenna.

The GPS antenna does not go thru the door/trunk gasket anymore, either in a rental car or in my own it sits on a ledge to get a view of the sky.

In a Toyota minivan rented in RDU there was a switched 12V power port in the back driver side, nice location for plug for power. Not a great location for the antenna, a small ledge that was tough for the antenna to perch on.

In the Chevrolet Uplander rented Cleveland there was a constant 12V power plug in the same area as the Toyota, behind a removable panel, also a nice ledge to put the GPS antenna. I would bring along some double sided tape on Velcro in the future so the GPS antenna does not slide around.

In the Cadillac (POV) I ran power from the battery (located under the rear seat) to the trunk. The GPS antenna is located on the rear window deck; there is a child seat restraint cover that goes into the trunk for the GPS coax to avoid pinch issues. Everything has powerpoles in my world for power, including the R-Trak power connector for my car.

Its not a pretty install on any of these due to my moving it around from vehicle to vehicle. I don't travel much but wanted to see how it worked out in different cities.

In Cleveland, I stayed downtown among the tall buildings, not great luck on the transmissions. In RDU, I drove to Greensboro and Asheville where there was modest network, some of the waypoints were picked up.

I picked up a small Mirage HT amp for the rural location transmissions. I will see how much of a difference that makes for future work. I will post my results of my travels and the likes and dislikes of some these vehicles I rent and how it can accommodate the very modest power needs.

Thanks to Jason for being above board on any issue that came about with my problems and RMA's. I would buy another and might.

I have never met him nor knew of him before the R-Trak came about as a side note.

Reply

D 'Noid' Wilson

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727.580.8603

727.571.3295 FAX

dwilson@... <mailto:dwilson@frontlinecomm.com>

dwilson@...

dwilson@...

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of Don Pomplun
Sent: Sunday, June 22, 2008 10:22 PM
To: RTrak@yahoogroups.com
Subject: [RTrak] stable, still in business, what ?

Has the RTrak reached a level of expected stability of operation? No recent posts about upgrades/successes except about pinched coax.
The website doesn't seem to have been updated since 6/7, and still talks about "pre-orders" and 6 week waits.
Have things gone tango-uniform? We were just talking about an RTrak being a nice solution for installation on the SS Jeremiah O'Brien so folk could track our cruises on SF Bay.
K2BIO

This email has been scanned by the MessageLabs Email Security System.
For more information please visit http://www.messagelabs.com/email
---

277. Power Connector spec

Yahoo group: RTrak
Date: 2008-06-30 01:57:21 UTC
From: ad8bc
Topic: 277 Message: 277

Hi all, does anybody know the spec for the power connector for the RTrak? I want to make a cable with a powerpole on the other end so I can plug it into my rigrunner instead of the cigarette lighter.

By spec I mean the size, as in something like "5.5 x 2.5mm Plug", etc.

Thanks!

-- Bill AD8BC

278. Re: Power Connector spec

Yahoo group: RTrak
Date: 2008-06-30 02:51:26 UTC
From: Jason Rausch
Topic: 277 Message: 278

Hi Bill,

The power connector on the RTrak is a standard 2.1mm pin diameter
jack.

A couple of guys have emailed me and told me that they chopped their
included power cable in half and then installed PowerPoles on both
cut ends. That way they can use the included cable with PowerPoles
or plug the lighter plug back on and use it with a lighter socket.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "ad8bc" <ad8bc@...> wrote:
>
> Hi all, does anybody know the spec for the power connector for the
> RTrak? I want to make a cable with a powerpole on the other end so
I
> can plug it into my rigrunner instead of the cigarette lighter.
>
> By spec I mean the size, as in something like "5.5 x 2.5mm Plug",
etc.
>
> Thanks!
>
> -- Bill AD8BC
>

279. new tracker.

Yahoo group: RTrak
Date: 2008-07-07 23:10:57 UTC
From: vo1um
Topic: 279 Message: 279

i just purchased a new rtrak device i have the software. can someone tell me the best way to set it up .. either the manual or the smartbeacon. can i get some help in how to set the settings plz.

280. Re: [RTrak] new tracker.

Yahoo group: RTrak
Date: 2008-07-08 01:07:06 UTC
From: Keith VE7GDH
Topic: 279 Message: 280

VO1UM wrote...

> I just purchased a new rtrak device I have the software. can someone
> tell me the best way to set it up .. either the manual or the
> smartbeacon. can i get some help in how to set the settings plz.

Select "profile 1" in the top left corner. I won't talk about "profile switching" for now except to recommend clicking on "profile switching" and removing all of the checkmarks down the left side and down the right side so you are only dealing with "profile 1" for now. When you are a bit more used to it, you could consider whether you wanted to do any profile switching based on altitude, speed, voltage etc.

Enter your callsign-ssid in the CALLSIGN field... e.g. VO1UM-9 or some SSID that isn't already in use.

Select 1200 baud.

Select a suitable path... e.g. WIDE1-1,WIDE2-1

Enter a suitable filter... e.g.
symbol taable /
symbol code [

This will cause it to use the "human" symbol, suitable if it will be used on foot.

The "temperature" and "quiet time" settings don't do anything in the RTrak.

Select SmartBeaconing and click on SETTINGS. Enter some suitable settings... e.g.
"between 3 km and 30 kmh" if it will be used on a bike, or between 3 km and 10 km if it will be used on foot... or between 5 km and 80 km if it will be in a vehicle and so on.

Enter a suitable transmit rate. Because the RTrak only puts ont 500 mW I don't hink anyone would argue with it beaconing a bit more often than the high powered mobile APRS stations running e.g. 5 to 50 watts from a mobile station. I would suggest a slow rate of between 300 and 600 secnds, and a fast rate of 30 to 60 seconds. Those two figures go between the low speed and high speed settings in the top row. For the "corner pegging" settings enter something like 20-30 degrees and have it "not transmit more than once every 15 seconds" or so.

Do some reading on SmartBeaconing so you know what these settings do. You are telling it to beacon at a slower rate when you are not moving or moving very slowly, and more quickly when you are moving faster than a

certain rate. It isn't a "one or the other" setting. It's a sliding scale between the two speeds. The corner pegging makes it transmit when you turn a corner.

Select GPS for the position. Put a checkmark in "don't requrie GPS fix" if you want it to beacon the last known position if it loses a lock... at least until it gets a fix again.

Don't enable waypoint output as the built-in GPS receiver doesn't have a display.

Decide if you want it to beacon altitude. Definitely enable course and speed. You might as well have it beacon the voltage so you can review the supply voltage later... e.g. http://aprs.fi/?c=raw&call=VO1UM-9. As VO1UM-9 (and a bunch of other SSIDs) is already in use, you will need to select another.

Load firmware... well, this should be done before you do any of the programming. It wouldn't hurt to check and see if you have the lastest firmware installed. Just click on the "load from web" button to do that.

Radio interface... you could turn the audio level down a bit... say about a quarter of way from the top of the scale.

Don't transmit if supply is less than e.g. 12 volts. Depends on what the power source is. If it's plugged into 12V form a vehicle, you probably wouldn't want to take the battery down much below 12 volts or so. If you are running on AA cells, you might as well have it keep going until the battery dies. If you are running from a 3 cell Li-PO battery, you wouldn't want to take it below 9V or 3 volts per cell. Mind you, the other circuitry (GPS receiver, OT etc.) will continue to draw current.

Click on "write" to save the settings to the RTrak. That's about it, but don't hesitate to ask on the list if you have further questions after you have used it a while.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

281. Tracker serial port misconfigured?

Yahoo group: RTrak
Date: 2008-08-10 05:52:00 UTC
From: Steve Hatch
Topic: 281 Message: 281

I successfully connected one time, but I think I messed up the serial port settings
on the tracker. Is there any type of hardware reset I can do to set it back to the default config?

Steve - WA7DAD

282. Re: Tracker serial port misconfigured?

Yahoo group: RTrak
Date: 2008-08-12 00:16:15 UTC
From: Jason Rausch
Topic: 281 Message: 282

Steve,

The OpenTracker/RTrak software is hard coded for baud rate, so it is basically impossible for you to actually change those settings.

Just a few Troubleshooting ?'s

Can you power up the RTrak?

Does it function normally in RUN MODE?

Can you switch to program mode and then back to run and get a red blink for GPS activity?

Are you in PROG mode when attempting to read the unit?

Have you tried another computer?

Are you using a hardware comport or USB/serial adapter?

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Steve Hatch" <stephen@...> wrote:
>
> I successfully connected one time, but I think I messed up the serial
> port settings
> on the tracker. Is there any type of hardware reset I can do to set it
> back to the default config?
>
> Steve - WA7DAD
>

283. Re: [RTrak] Re: Tracker serial port misconfigured?

Yahoo group: RTrak
Date: 2008-08-13 23:57:03 UTC
From: Steve Hatch
Topic: 281 Message: 283
Attachments: 1 described; binary payloads are missing from this source WARC

Hi Jason,

Below are the answers to your questions in order:

- Yes, it powers up.

- No, the top led is solid red and the bottom is solid green.

- Yes, i am in prog mode while attempting a serial connection

- Yes, three, two desktop workstations with real built-in serial ports.

- Both, normally I use a Vista Laptop with a USB to serial adapter. It seems to be working with the programming software for other radios.

All I get is the "Ready to connect. Please reset tracker now.

Section 4.4 does not indicate what serial port speed, parity or error correction to use, so I used the standard 9600, 8, N ,1.

I'm thinking I may have accidentally checked the erase device and load new firmware check box.

Thanks,

Steve - WA7DAD

Jason Rausch wrote:

Steve,

The OpenTracker/RTrak software is hard coded for baud rate, so it is
basically impossible for you to actually change those settings.

Just a few Troubleshooting ?'s

Can you power up the RTrak?

Does it function normally in RUN MODE?

Can you switch to program mode and then back to run and get a red
blink for GPS activity?

Are you in PROG mode when attempting to read the unit?

Have you tried another computer?

Are you using a hardware comport or USB/serial adapter?

Jason KE4NYV
RPC Electronics
www.rpc-electronics (http://www.rpc-electronics).com

--- In RTrak@yahoogroups.com, "Steve Hatch" > wrote:
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> port settings
> on the tracker. Is there any type of hardware reset I can do to
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> back to the default config?
>
> Steve - WA7DAD
>

284. oops, I skipped a question

Yahoo group: RTrak
Date: 2008-08-14 06:22:38 UTC
From: Steve Hatch
Topic: 284 Message: 284

It does not appear to run normally in run mode.

Steve

285. Any thoughts?

Yahoo group: RTrak
Date: 2008-08-17 21:05:36 UTC
From: Steve Hatch
Topic: 285 Message: 285

Hi Jason,

Any thoughts as to what I might try to get my tracker running? I am supposed to be demonstrating it's function to our City Emergency Manager the first week of September. Any chance we can get it going in time? If we can make a good showing in the demo, they will likely want to purchase more.

Thanks for your help,

Steve - WA7DAD

286. Re: Any thoughts?

Yahoo group: RTrak
Date: 2008-08-20 13:52:50 UTC
From: Jason Rausch
Topic: 285 Message: 286

Steve,

Please send me an email off-list with a good number that I can
contact you at.

email: jason@...

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Steve Hatch" <stephen@...> wrote:
>
> Hi Jason,
>
> Any thoughts as to what I might try to get my tracker running? I
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> Manager the first week of September. Any chance we can get it
going
> in time? If we can make a good showing in the demo, they will
likely
> want to purchase more.
>
> Thanks for your help,
>
> Steve - WA7DAD
>

287. RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-22 22:52:21 UTC
From: Dan Dawson
Topic: 287 Message: 287

When I first got my RTrack I was able to get picked up by digis occasionally and made it to iGates, but lately, I can't get picked up by anything other than my own TH-D7 when it's right next to it.

When listening to the packets on another radio, I noticed they really seem to "sound" different to me, not sure if this makes any sense, but I recorded the audio of one RTrack packet and the second packet is from my TH-D7.

Is it possible for anyone to decode the packets from the MP3 and see if the first packet does appear to be valid? Here is the audio file:

http://ki6esh.com/rtrack_and_thd7.mp3

Are there any troubleshooting ideas I could try to make this start working again? I am going on a road trip this week and would love to track the journey to Black Rock City.

I've tried various antennas (rubber duck, small mag mount, large mag mount, large mag mount with a 35 watt inline amplifier, took it flying over cities at low altitude where coverage should have been great, etc)

Here is a copy of my configuration profile in case I have something set up incorrectly there:

http://ki6esh.com/rtrack_profile.cfg

Any help in getting this to work would be greatly appreciated. Otherwise I'll get it shipped back for additional troubleshooting help.

Dan Dawson
http://ki6esh.com

288. Re: [RTrak] RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-23 05:08:16 UTC
From: Keith VE7GDH
Topic: 287 Message: 288

Dan KI6EH wrote...

> When I first got my RTrack I was able to get picked up by digis
> occasionally and made it to iGates, but lately, I can't get picked up
> by anything other than my own TH-D7 when it's right next to it.
>
> When listening to the packets on another radio, I noticed they really
> seem to "sound" different to me, not sure if this makes any sense, but
> I recorded the audio of one RTrack packet and the second packet is
> from my TH-D7.

See below about TXdelay.

> Is it possible for anyone to decode the packets from the MP3 and see
> if the first packet does appear to be valid? Here is the audio file:
>
> http://ki6esh.com/rtrack_and_thd7.mp3

I'm not set up to decode the MP3 file but the first beacon might have the TXdelay a bit short and the 2nd one sounds like it could be a bit long. Going by ear, I thought the two beacons came from two different stations, but read on!

> Are there any troubleshooting ideas I could try to make this start
> working again? I am going on a road trip this week and would love to
> track the journey to Black Rock City.
>
> I've tried various antennas (rubber duck, small mag mount, large mag
> mount, large mag mount with a 35 watt inline amplifier, took it flying
> over cities at low altitude where coverage should have been great,
> etc)

In my own experience with an RTrak, performance will be somewhat dismal with a rubber duck and with one of those super-flexible dual band whips right on the RTrak. However, connected to a dual-band mag mount (probably 5/8 wave) it did very well both on a vehicle and on the back of a bike.

I would seriously recommend NOT ever connecting an amplifier to an RTrak unless you are really out in the boonies. If you are anywhere near populated areas, you could get very unpopular really fast if you transmit with that kind of power while not listening to see if the frequency is clear. At 500 mW straight out of the RTrak, no-one could fault you for transmitting often though. The amp should most definitely NOT be used in the air.

In the air, change the path to WIDE2-1. If you are going to sometimes fly with it, set it up to use WIDE1-1,WIDE2-1 when you are on the ground and a one hop WIDE2-1 while you are above a certain altitude. Profile switching can do this for you.

So... that's all nit-picking (except the use of the 35 watt amp which shouldn't be used) but now on to the actual problem. You are currently using profile switching. In profile 1, the callsign is KI6ESH-3. The TXDelay is a bit long at 200 ms. I would suggest 100-125 ms.

> Here is a copy of my configuration profile in case I have something
> set up incorrectly there:
>
> http://ki6esh.com/rtrack_profile.cfg

That explained most of your problems.

Your WIDE1-1,WIDE2-2 two hop path would probably be considered one hop over the recommended path, but it's up to you to know what is the right path to use.

The 200 ms TXdelay in profile 1 is a bit long. I've had good performance at 100 ms. As well as using a bit more air time (wasted bandwidth) it will shorten your battery life a bit.

Profile 1 is transmitting every 65 seconds. I would recommend using SmartBeaconing. The settings would depend on the speeds you will normally be travelling at... different settings for walking speeds, bike speeds, driving speeds and flying speeds.

You have the profile switching settings set to change from profile 1 to profile 2 when ANY of the conditions are met, including when the speed exceeds 1.45 Km/h. That's just a bit above crawling speed... certainly well under walking speed... and there-in lies most of your problems. Pretty much as soon as you start moving, it will change to profile 2.

Profile 2 is set to change back to profile 1 when ANY of the conditions are met... including if the temperature is less than minus 210C (there isn't a temperature sensor installed, so this should not be enabled) or if the jumper is OFF and I assume you aren't popping the lid to fiddle with the jumpers, so if the jumper isn't installed, it's going to go back to profile 1 immediately. Of course, if you are moving, it's going to switch to profile 2 again and so on ad infinitum.

Of course, you could have added your own switch to manually toggle between profile 1 and profile 2.

So... let's look at your profile 2 settings:

callsign 6ESHS-7 (gibbled)
path DE2-9,DE2,-3 (gibbled)
symbol and table (gibbled)
beacon text rak V1.7 (appears to be missing an RT from the beginning)
SmartBeaconing is enabled, but with the slow speed (293 kmh) set faster

than the fast speed (32 kmh) and a slow rate of zero seconds (I don't know if that's going to transmit immediately or never) and every 28737 seconds for the fast rate. Basically, the SmartBeaconing settings are gibbled too. Aw yeah... it's also set to beacon when turning more than zero degrees. Definitely gibbled.

You have temperature enabled. That's useless as there isn't a temperature sensor... unless you did some surgery to the OT that's inside the RTrak. You also have telemetry enabled every 15 seconds. Have you opened it up and connected anything to the OT to send telemetry?

Transmit audio level is turned almost all of the way down in profile 2.

Profile 2 is set for a fixed position of 0S 0W... on the equator off the west coast of Africa.

The TXDelay in profile 2 is way too long at 380 ms. Finally, a setting that could be right... don't transmit if less than 5.95 volts.

Profile 1 has software DCD enabled. That shouldn't be selected, even though there isn't a receiver connected.

The frequency settings were all zero MHz. I'm not sure if that's because I wasn't connected to an RTrak or if that was actually what was in the configuration file that you attached.

More... you also had "use PTT input" enabled and had timeslotting set for 1876 seconds.

Did I forget anything?

I'm sure you didn't enter most of those settings, but hopefully you can fix them! If you have any trouble programming it, try updating the firmware.

> Any help in getting this to work would be greatly appreciated.
> Otherwise I'll get it shipped back for additional troubleshooting
> help.

Not necessary! You have some (serious) programming problems, possibly combined with an inadequate antenna at least when you are using the rubber duck. I'm really impressed with the performance with the dual-band mag-mount, while I was surprised at the lack of performance with the dual-band whip (two brands, about 14" and 17" if I remember correctly) right on the RTrak. The amplifier should (almost never) be used with the RTrak.

I think that about covers it.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

289. Re: [RTrak] RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-23 05:23:02 UTC
From: Keith VE7GDH
Topic: 287 Message: 289

I wrote...

> Going by ear, I thought the two beacons came from two different
> stations, but read on!

I see now the first one was the RTrak and the 2nd one was your D7!

I also said "your WIDE1-1,WIDE2-2 two hop path" and that should of
course have said "three hop path"!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

290. Re: RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-23 05:39:32 UTC
From: Dan Dawson
Topic: 287 Message: 290

Wow, thank you for the detailed response! I'm going to try out some ideas, and clarify some of the questions or thoughts you had below :-) I will definitely report back here if I find the solution!

> Going by ear, I thought the two beacons came from two different
> stations, but read on!

One trick here that might be fooling people a bit is that the first packet contains much less data, it was "stripped down" to the most basic data the RTrack would include in case something I was including was causing the problem (example, no temperature, no voltage, etc) and the Kenwood was including the location, message, and possibly some other details.

> However, connected to a dual-band mag mount
> (probably 5/8 wave) it did very well both on a vehicle and on the
> back of a bike.

I assumed the rubber duck wouldn't do much, my mag mount is a center loaded 1/2 wave and does well for me on VHF, so most of my testing was done with that antenna, no amplifier inline.

> I would seriously recommend NOT ever connecting an amplifier to
> an RTrak

Only dropped it inline as a last resort since nothing was making it out, no change.

> The amp should most definitely NOT be used in the air.

Definitely wouldn't use it up there! I use profile two for aircraft and believe it is the WIDE2-1. It looks like the configuration I attached might have been corrupted in the transfer, I'll expand on that below:

> You are currently using profile switching. In profile 1, the callsign
> is KI6ESH-3. The TXDelay is a bit long at 200 ms. I would suggest
100-125 ms.

I set up the TXDelay longer since some people had mentioned that my delay might have been clipping the start. I tried options between 100ms and 500ms, with no change in receipt of the packets by digis.

> Your WIDE1-1,WIDE2-2 two hop path would probably be considered one hop
> over the recommended path

My usual path would be WIDE1-1,WIDE2-1 but during testing I added another hop, no help.

> Profile 1 is transmitting every 65 seconds. I would recommend using
> SmartBeaconing.

Set it to a standard time so I could know during testing when to expect a packet. For driving I will set it to something around 2 minutes or play with smart, for the plane I will definitely be using smart beaconing.

My profile switch was (I believed) set up to switch from Profile 1 to Profile 2 at 90 mph. Profile 2 would only switch back to profile 1 when speed was less than or equal to zero. Thinking here was I never drive 90, but the plane will reach that once I level for cruise. It'll stay in aircraft mode no matter the speed from that point until I'm on the ground and stop moving, then auto switch to Profile 1.

Side question, does powering off and back on always revert to Profile 1 or does it remember it's settings even after power off?

> You have the profile switching settings set to change from profile 1 to
> profile 2 when ANY of the conditions are met, including when the speed
> exceeds 1.45 Km/h.

This is where I'm wondering if we either have a corrupt file here, or if we're using different versions of the config file, etc... my profile switch speed is 90 mph, and the rest of the data you mention doesn't match what I have in my config at all. Profile 2 says "any" but the only box checked is 0 mph for speed, the rest are unchecked.

> So... let's look at your profile 2 settings:

All of those second profile settings don't match at all of what I have on my config screen, and it does appear to write to the RTrack with no problem, so I'm assuming the data is making it in properly. But it definitely leaves me wondering how the data got so corrupt when read back in on yours, I'm assuming there's some version difference or something between us.

> You have some (serious) programming problems, possibly
> combined with an inadequate antenna at least when you are using the
> rubber duck.

I'm going to do some checking on programming software versions and RTrack firmware version to make sure they're playing nicely together. Since I can read the packets successfully off my Kenwood from the RTrack, that leaves me thinking it is a transmitter/antenna type of problem, even though my 1/2 wave center loaded mag mount works great for voice contacts.

Thanks again for reviewing things, I'll keep digging and see what I can find... I'll probably set up packets on both the Kenwood and the RTrack again with similar data and record the audio again... I'm going to play with TXDelay and audio levels on the RTrack, and compare the sound of those packets with the Kenwood with it's three power levels

and see what the differences sound like, using the same antennas and same volume settings on the recording computer... they just really sound different (not just length but content) from each other.

291. Re: [RTrak] Re: Any thoughts?

Yahoo group: RTrak
Date: 2008-08-21 02:25:17 UTC
From: Steve Hatch
Topic: 285 Message: 291

Hi Jason,

I can be reached at:

Cell: 206 851-8842
Home: 253 205-8588

Thanks for your help!

Steve - WA7DAD

Jason Rausch wrote:
>
> Steve,
>
> Please send me an email off-list with a good number that I can
> contact you at.
>
> email: jason@... <mailto:jason%40rpc-electronics.com>
>
> Thanks,
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
> --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com>, "Steve
> Hatch" <stephen@...> wrote:
> >
> > Hi Jason,
> >
> > Any thoughts as to what I might try to get my tracker running? I
> am
> > supposed to be demonstrating it's function to our City Emergency
> > Manager the first week of September. Any chance we can get it
> going
> > in time? If we can make a good showing in the demo, they will
> likely
> > want to purchase more.
> >
> > Thanks for your help,
> >
> > Steve - WA7DAD
> >
>
>

292. New file uploaded to RTrak

Yahoo group: RTrak
Date: 2008-08-23 13:50:47 UTC
From: RTrak@yahoogroups.com
Topic: 292 Message: 292

```
Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the RTrak
group.

File : /rtrak_default.cfg
Uploaded by : ke4nyv <lists@...>
Description : Default RTrak config file used by RPC Electronics

You can access this file at the URL:
http://groups.yahoo.com/group/RTrak/files/rtrak_default.cfg

To learn more about file sharing for your group, please visit:
http://help.yahoo.com/l/us/yahoo/groups/original/members/web/index.htmlfiles

Regards,

ke4nyv <lists@...>
```

293. Re: RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-23 13:53:14 UTC
From: Jason Rausch
Topic: 287 Message: 293

Keith,

Thank you for the detailed help ro Dan! It looks like you hit all of
the highlight problems that I saw.

Dan, please check the files section for the group. I have uploaded
the defualt config file that we used to initially program each RTrak
before they ship. When all else fails, I usually load this file to
get a unit back to "even center". Please give it a try and see if
you can remedy the corrupt data that appears to be in your RTrak
currently.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@...> wrote:
>
> Dan KI6EH wrote...
>
> > When I first got my RTrack I was able to get picked up by digis
> > occasionally and made it to iGates, but lately, I can't get
picked up
> > by anything other than my own TH-D7 when it's right next to it.
> >
> > When listening to the packets on another radio, I noticed they
really
> > seem to "sound" different to me, not sure if this makes any
sense, but
> > I recorded the audio of one RTrack packet and the second packet is
> > from my TH-D7.
>
> See below about TXdelay.
>
> > Is it possible for anyone to decode the packets from the MP3 and
see
> > if the first packet does appear to be valid? Here is the audio
file:
> >
> > http://ki6esh.com/rtrack_and_thd7.mp3
>
> I'm not set up to decode the MP3 file but the first beacon might
have
> the TXdelay a bit short and the 2nd one sounds like it could be a
bit
> long. Going by ear, I thought the two beacons came from two

different
> stations, but read on!
>
> > Are there any troubleshooting ideas I could try to make this start
> > working again? I am going on a road trip this week and would
love to
> > track the journey to Black Rock City.
> >
> > I've tried various antennas (rubber duck, small mag mount, large
mag
> > mount, large mag mount with a 35 watt inline amplifier, took it
flying
> > over cities at low altitude where coverage should have been great,
> > etc)
>
> In my own experience with an RTrak, performance will be somewhat
dismal
> with a rubber duck and with one of those super-flexible dual band
whips
> right on the RTrak. However, connected to a dual-band mag mount
> (probably 5/8 wave) it did very well both on a vehicle and on the
> back of a bike.
>
> I would seriously recommend NOT ever connecting an amplifier to
> an RTrak unless you are really out in the boonies. If you are
anywhere
> near populated areas, you could get very unpopular really fast if
you
> transmit with that kind of power while not listening to see if the
> frequency is clear. At 500 mW straight out of the RTrak, no-one
> could fault you for transmitting often though. The amp should
> most definitely NOT be used in the air.
>
> In the air, change the path to WIDE2-1. If you are going to
sometimes
> fly with it, set it up to use WIDE1-1,WIDE2-1 when you are on the
> ground and a one hop WIDE2-1 while you are above a certain
> altitude. Profile switching can do this for you.
>
> So... that's all nit-picking (except the use of the 35 watt amp
which
> shouldn't be used) but now on to the actual problem. You are
currently
> using profile switching. In profile 1, the callsign is KI6ESH-3. The
> TXDelay is a bit long at 200 ms. I would suggest 100-125 ms.
>
> > Here is a copy of my configuration profile in case I have
something
> > set up incorrectly there:
> >

> > http://ki6esh.com/rtrack_profile.cfg
>
> That explained most of your problems.
>
> Your WIDE1-1,WIDE2-2 two hop path would probably be considered one
hop
> over the recommended path, but it's up to you to know what is the
right
> path to use.
>
> The 200 ms TXdelay in profile 1 is a bit long. I've had good
performance
> at 100 ms. As well as using a bit more air time (wasted bandwidth)
it
> will shorten your battery life a bit.
>
> Profile 1 is transmitting every 65 seconds. I would recommend using
> SmartBeaconing. The settings would depend on the speeds you will
> normally be travelling at... different settings for walking speeds,
bike
> speeds, driving speeds and flying speeds.
>
> You have the profile switching settings set to change from profile
1 to
> profile 2 when ANY of the conditions are met, including when the
speed
> exceeds 1.45 Km/h. That's just a bit above crawling speed...
certainly
> well under walking speed... and there-in lies most of your problems.
> Pretty much as soon as you start moving, it will change to profile
2.
>
> Profile 2 is set to change back to profile 1 when ANY of the
conditions
> are met... including if the temperature is less than minus 210C
(there
> isn't a temperature sensor installed, so this should not be
enabled) or
> if the jumper is OFF and I assume you aren't popping the lid to
fiddle
> with the jumpers, so if the jumper isn't installed, it's going to go
> back to profile 1 immediately. Of course, if you are moving, it's
going
> to switch to profile 2 again and so on ad infinitum.
>
> Of course, you could have added your own switch to manually toggle
> between profile 1 and profile 2.
>
> So... let's look at your profile 2 settings:
>

> callsign 6ESHS-7 (gibbled)
> path DE2-9,DE2,-3 (gibbled)
> symbol and table (gibbled)
> beacon text rak V1.7 (appears to be missing an RT from the
beginning)
> SmartBeaconing is enabled, but with the slow speed (293 kmh) set
faster
> than the fast speed (32 kmh) and a slow rate of zero seconds (I
don't
> know if that's going to transmit immediately or never) and every
28737
> seconds for the fast rate. Basically, the SmartBeaconing settings
are
> gibbled too. Aw yeah... it's also set to beacon when turning more
than
> zero degrees. Definitely gibbled.
>
> You have temperature enabled. That's useless as there isn't a
> temperature sensor... unless you did some surgery to the OT that's
> inside the RTrak. You also have telemetry enabled every 15 seconds.
Have
> you opened it up and connected anything to the OT to send telemetry?
>
> Transmit audio level is turned almost all of the way down in
profile 2.
>
> Profile 2 is set for a fixed position of 0S 0W... on the equator
off the
> west coast of Africa.
>
> The TXDelay in profile 2 is way too long at 380 ms. Finally, a
setting
> that could be right... don't transmit if less than 5.95 volts.
>
> Profile 1 has software DCD enabled. That shouldn't be selected, even
> though there isn't a receiver connected.
>
> The frequency settings were all zero MHz. I'm not sure if that's
because
> I wasn't connected to an RTrak or if that was actually what was in
the
> configuration file that you attached.
>
> More... you also had "use PTT input" enabled and had timeslotting
set
> for 1876 seconds.
>
> Did I forget anything?
>
> I'm sure you didn't enter most of those settings, but hopefully you

can
> fix them! If you have any trouble programming it, try updating the
> firmware.
>
> > Any help in getting this to work would be greatly appreciated.
> > Otherwise I'll get it shipped back for additional troubleshooting
> > help.
>
> Not necessary! You have some (serious) programming problems,
possibly
> combined with an inadequate antenna at least when you are using the
> rubber duck. I'm really impressed with the performance with the
> dual-band mag-mount, while I was surprised at the lack of
performance
> with the dual-band whip (two brands, about 14" and 17" if I remember
> correctly) right on the RTrak. The amplifier should (almost never)
be
> used with the RTrak.
>
> I think that about covers it.
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"
>

294. Re: Any thoughts?

Yahoo group: RTrak
Date: 2008-08-23 13:54:03 UTC
From: Jason Rausch
Topic: 285 Message: 294

Steve, I will get ahold of you today.

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, Steve Hatch <stephen@...> wrote:
>
>
> Hi Jason,
>
> I can be reached at:
>
> Cell: 206 851-8842
> Home: 253 205-8588
>
> Thanks for your help!
>
> Steve - WA7DAD
>
> Jason Rausch wrote:
> >
> > Steve,
> >
> > Please send me an email off-list with a good number that I can
> > contact you at.
> >
> > email: jason@... <mailto:jason%40rpc-electronics.com>
> >
> > Thanks,
> > Jason KE4NYV
> > RPC Electronics
> > www.rpc-electronics.com
> >
> > --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com>,
"Steve
> > Hatch" <stephen@> wrote:
> > >
> > > Hi Jason,
> > >
> > > Any thoughts as to what I might try to get my tracker running? I
> > am
> > > supposed to be demonstrating it's function to our City Emergency
> > > Manager the first week of September. Any chance we can get it

> > going
> > > in time? If we can make a good showing in the demo, they will
> > likely
> > > want to purchase more.
> > >
> > > Thanks for your help,
> > >
> > > Steve - WA7DAD
> > >
> >
> >
>

295. Re: [RTrak] Re: RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-23 08:06:37 UTC
From: Keith VE7GDH
Topic: 287 Message: 295

Dan KI6EH wrote...

> Wow, thank you for the detailed response! I'm going to try out some
> ideas, and clarify some of the questions or thoughts you had below :-)
> I will definitely report back here if I find the solution!

It helped that you included the config file - hi!

> One trick here that might be fooling people a bit is that the first
> packet contains much less data, it was "stripped down" to the most
> basic data the RTrack would include in case something I was including
> was causing the problem (example, no temperature, no voltage, etc) and
> the Kenwood was including the location, message, and possibly some
> other details.

I forgot to mention... you could enable "compressed" to shorten the
RTrak beacon. There is no point enabling "temperature" because there
isn't a temperature sensor installed.

> I assumed the rubber duck wouldn't do much, my mag mount is a center
> loaded 1/2 wave and does well for me on VHF, so most of my testing was
> done with that antenna, no amplifier inline.

That's possibly what my mag mount is. The paperwork didn't indicate this
though. I didn't expect much of the rubber duck when I trsted it, but
(surprisingly) it didn't do any worse than the two super-flexible
dual-band whips that I tried.

> Only dropped it inline as a last resort since nothing was making it
> out, no change.

I getcha. In that case, you are forgiven!

> Definitely wouldn't use it up there! I use profile two for aircraft
> and believe it is the WIDE2-1. It looks like the configuration I
> attached might have been corrupted in the transfer, I'll expand on
> that below:

The file you attached erlier does appear to be corrupted.

> I set up the TXDelay longer since some people had mentioned that my
> delay might have been clipping the start. I tried options between
> 100ms and 500ms, with no change in receipt of the packets by digis.

Get it going again, and then try something in the 100-200 ms range.

> My usual path would be WIDE1-1,WIDE2-1 but during testing I
> added another hop, no help.

It's worth trying anything (including the amp) when you are troublesooting, but a longer path won't help a nearby station decode your transmitted tones.

> Set it to a standard time so I could know during testing when to
> expect a packet. For driving I will set it to something around 2
> minutes or play with smart, for the plane I will definitely be using
> smart beaconing.

AT 500 mW you are at a disadvantage compared to the high powered stations beaconing around you. I would actually recommend using SmartBeaconing with it set to beacon every 30-60 seconds at the fast rate and every few minutes at the slow rate. Every 30 seconds would be far too often from a high powered tracker, but my opinion is that it is "OK" for (very) low powered trackers to transmit more often. For testing, you could set it to every 10-20 seconds with no path... or even set it it on another frequency just for testing.

> My profile switch was (I believed) set up to switch from Profile 1 to
> Profile 2 at 90 mph. Profile 2 would only switch back to profile 1
> when speed was less than or equal to zero. Thinking here was I never
> drive 90, but the plane will reach that once I level for cruise. It'll
> stay in aircraft mode no matter the speed from that point until I'm on
> the ground and stop moving, then auto switch to Profile 1.

If that's what you last entered, then the config file was definitely corrupted. However, based on your stated use, I would set e.g. profile 1 for normal settings using SmartBeaconing with a two-hop WIDE1-1,WIDE2-1, and use a one-hp WIDE2-1 in profile 2 for while you are flying.

You could base the profile switching on speed or altitude. If you always fly from the same airport and never drive any higher than the airport's altitude, you could do the profile switching based on altitude. If you always drive below a certain speed and always fly faster than that speed, you could base the profile switching on speed. Of course, if you drive in the mountains above the airport elevation, and the plane has a very slow stall speed, deciding on what to base the profile switching on could be a bit tricker. Of course, you could drill a hole in the case and mount a switch to do manual profile switching.

> Side question, does powering off and back on always revert to Profile
> 1 or does it remember it's settings even after power off?

As far as I know, it will always start in profile 1. However, the settings in the config file you attached would have it toggling back and forth between profile 1 and profile 2 all of the time. However, the settings that I looked at could well be corrupted and not what you intended them to be.

> This is where I'm wondering if we either have a corrupt file here, or
> if we're using different versions of the config file, etc... my
> profile switch speed is 90 mph, and the rest of the data you mention
> doesn't match what I have in my config at all. Profile 2 says "any"

> but the only box checked is 0 mph for speed, the rest are unchecked.

You could look at the settings and if they look normal, save the file and send it again.

> All of those second profile settings don't match at all of what I have
> on my config screen, and it does appear to write to the RTrack with no
> problem, so I'm assuming the data is making it in properly. But it
> definitely leaves me wondering how the data got so corrupt when read
> back in on yours, I'm assuming there's some version difference or
> something between us.

Did anyone else look at the config file that Dan sent? Can anyone else confirm the settings that I saw?

> I'm going to do some checking on programming software versions and
> RTrack firmware version to make sure they're playing nicely together.
> Since I can read the packets successfully off my Kenwood from the
> RTrack, that leaves me thinking it is a transmitter/antenna type of
> problem, even though my 1/2 wave center loaded mag mount works great
> for voice contacts.

Deal with the programming first. Maybe your settings are OK but the config file got corrupted when you saved it. On the other hand, if your RTrak is actually using the settings from the file you sent, most of them are really messed up. Once the p;rogamming is OK, check the performance on RF. In my experience, the antenna really makes the difference.

> Thanks again for reviewing things, I'll keep digging and see what I
> can find... I'll probably set up packets on both the Kenwood and the
> RTrack again with similar data and record the audio again... I'm going
> to play with TXDelay and audio levels on the RTrack, and compare the
> sound of those packets with the Kenwood with it's three power levels
> and see what the differences sound like, using the same antennas and
> same volume settings on the recording computer... they just really
> sound different (not just length but content) from each other.

No p;roblem. I would be interested in hearing if the settings in your RTrak match what was in the config file that you sent. It isn't too surprising that the two beacons sound different. Part is probably the different TXDelays. Part is probably because different chips are generating the tones. Part could just be the different length of the actual beacon. Part could be different audio levels. Changing the transmit power out of your D7 shouldn't make it sound any different.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

296. Re: [RTrak] New file uploaded to RTrak

Yahoo group: RTrak
Date: 2008-08-23 14:06:35 UTC
From: Keith VE7GDH
Topic: 296 Message: 296

Jason KE4NYV wrote...

> This email message is a notification to let you know that
> a file has been uploaded to the Files area of the RTrak
> group.
> http://groups.yahoo.com/group/RTrak/files/rtrak_default.cfg

I noticed that the default config file is set to output received position reports to the GPS receiver. With no display, that shouldn't be necessary. It probably doesn't hurt anything, but the OT would have less to do if it wasn't trying to output waypoints to a GPS receiver that can't display them.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

297. Re: [RTrak] New file uploaded to RTrak

Yahoo group: RTrak
Date: 2008-08-23 15:18:36 UTC
From: Jason KG4WSV
Topic: 296 Message: 297

On 8/23/08, Keith VE7GDH <ve7gdh@...> wrote:

> I noticed that the default config file is set to output received
> position reports to the GPS receiver.

Since the rtrak has no receive, I don't think this will generate much CPU load.

-Jason
kg4wsv

298. Re: [RTrak] New file uploaded to RTrak

Yahoo group: RTrak
Date: 2008-08-23 15:38:43 UTC
From: Keith VE7GDH
Topic: 296 Message: 298

Jason KG4WSV wrote...

> Since the RTrak has no receive, I don't think this will generate much
> CPU load.

Ouch! Good point, but the OT might get frustrated waiting for a
position report - hi!

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

299. Re: RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-23 16:43:41 UTC
From: Dan Dawson
Topic: 287 Message: 299

Thanks again for the assistance, we'll see how things go!

I downloaded the configuration file you uploaded, and oddly enough profile 2 was corrupt for me?!

So I went ahead and downloaded a new firmware from the web using RTrackOpenTracker.exe (1.0.0.1 that came on the CD?) and the firmware was: OpenTracker Plus RTrack firmware 54568 04-12-2008.

Loading that gave me a new default profile which I started with. I updated my call, the icons, profile switching, etc. I left as much as possible default unless I felt it was safe to change it.

Since uploading my config seemed to show corrupt for you two, and yours seemed corrupt for me... here are screen captures of my final config after starting over with the default:

http://ki6esh.com/2008-08-23_Profile1.jpg
http://ki6esh.com/2008-08-23_Profile2.jpg
http://ki6esh.com/2008-08-23_Profile_Switch.jpg

I'll try to take it out around town and do some testing today, and I'll probably try to do an audio capture if it again so I can compare it to the TH-D7 again. I'll report back!

Dan Dawson
http://ki6esh.com

300. Re: [RTrak] Re: RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-23 16:59:16 UTC
From: lists@ke4nyv.com
Topic: 287 Message: 300

Dan,

Those SS's look good. One thing I forgot to mention was exactly what you did. Reload the firmware so you have a fresh start and THEN load my default file. That would give you a fresh start..on a clean slate (can you have both of those?) ;o)

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- On Sat, 8/23/08, Dan Dawson <dawson@...> wrote:
From: Dan Dawson <dawson@...>
Subject: [RTrak] Re: RTrack packets "sound" different, not making it to Digi's
To: RTrak@yahoogroups.com
Date: Saturday, August 23, 2008, 12:43 PM

Thanks again for the assistance, we'll see how things go!

I downloaded the configuration file you uploaded, and oddly enough

profile 2 was corrupt for me?!

So I went ahead and downloaded a new firmware from the web using

RTrackOpenTracker. exe (1.0.0.1 that came on the CD?) and the firmware

was: OpenTracker Plus RTrack firmware 54568 04-12-2008.

Loading that gave me a new default profile which I started with. I

updated my call, the icons, profile switching, etc. I left as much as

possible default unless I felt it was safe to change it.

Since uploading my config seemed to show corrupt for you two, and

yours seemed corrupt for me... here are screen captures of my final

config after starting over with the default:

http://ki6esh. com/2008- 08-23_Profile1. jpg

http://ki6esh. com/2008- 08-23_Profile2. jpg

http://ki6esh. com/2008- 08-23_Profile_ Switch.jpg

I'll try to take it out around town and do some testing today, and

I'll probably try to do an audio capture if it again so I can compare

it to the TH-D7 again. I'll report back!

Dan Dawson

http://ki6esh. com

301. Re: [RTrak] New file uploaded to RTrak

Yahoo group: RTrak
Date: 2008-08-23 16:58:53 UTC
From: Scott Miller
Topic: 296 Message: 301

As someone pointed out recently in the OpenTracker group, the ADC sampling could be largely eliminated from the firmware and save maybe 1 mA. I deliberately didn't remove all of the RX code from the RTrak-specific firmware in case anyone wanted to add an external receiver. I could do a TX-only version that'd be slightly more efficient, though.

Scott

Keith VE7GDH wrote:
> Jason KG4WSV wrote...
>
>> Since the RTrak has no receive, I don't think this will generate much
>> CPU load.
>
> Ouch! Good point, but the OT might get frustrated waiting for a
> position report - hi!
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"
>
>
> ----------
>
> Yahoo! Groups Links
>
>
>
>
>

302. Test

Yahoo group: RTrak
Date: 2008-08-24 00:47:57 UTC
From: Jason Rausch
Topic: 302 Message: 302

```
Test Message
```

303. Re: Test

Yahoo group: RTrak
Date: 2008-08-24 00:49:11 UTC
From: Jason Rausch
Topic: 302 Message: 303

```
--- In RTrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> Test Message
>
```

304. Re: RTrack packets

Yahoo group: RTrak
Date: 2008-08-24 01:33:23 UTC
From: Dan Dawson
Topic: 287 Message: 304

Something in the resetting the firmware starting with a new profile looks like it might have made a difference :-)

I was out and about for 45 minutes and one packet did get picked up, which is more than I can say for the last few months of casual playing and testing.

The only thing that seems a bit odd from this packet is the iGate that picked it up... KC0MWM appears to be in Nebraska and I'm in California! My path was WIDE1-1,WIDE2-1, and here's the raw packet as received.

2008-08-23 21:41:42 UTC:
KI6ESH-3>APOTC1,WIDE1-1,WIDE2-2,qAR,KC0MWM:!3703.37N/12201.85W>

I'll report back when I return from Burning Man and see how things go with it!

Dan Dawson
http://ki6esh.com
http://aprs.fi/?call=KI6ESH-3

305. Re: [RTrak] Re: RTrack packets

Yahoo group: RTrak
Date: 2008-08-24 01:45:16 UTC
From: Greg Clark
Topic: 287 Message: 305
Attachments: 2 described; binary payloads are missing from this source WARC

```
[ Attachment content not displayed ]
```

306. Re: [RTrak] Re: RTrack packets "sound" different, not making it to Digi's

Yahoo group: RTrak
Date: 2008-08-24 14:24:31 UTC
From: Keith VE7GDH
Topic: 287 Message: 306

Dan KI6ESH wrote...

> here are screen captures of my final config after starting over with
> the default:
> http://ki6esh.com/2008-08-23_Profile1.jpg

Car symbol. Looks OK but I would have used SmartBeaconing.
Perhaps bump the TX audio up a bit higher.

> http://ki6esh.com/2008-08-23_Profile2.jpg

Small plane symbol. Nice one hop path... good for while at altitude.
No need to output waypoints. Perhaps bump TX audio up a bit higher.
Consider SmartBeaconing.

> http://ki6esh.com/2008-08-23_Profile_Switch.jpg

With your profile switching setup, it will go to profile 2 when you
exceed 90 mph but it will never switch back until you power cycle it.
You have several options... e.g. based on speed, altitude, even voltage
when you turn the engine off if you are powering it from the planes
electrical system, but you probably don't do that in the air.

Thoughts on SmartBeaconing... you probably drive somewhere between
zero (parked) and X (80-90?) kmh. You probably travel somewhere
between X and Y (125-300?) kmh in the air. Cars can make 90 degree
turns but usually slow down for them. Most planes (and pilots) can't
take the Gs to do 90 degree turns unless they are taxiing on the ground.
The RTrak only puts out 500 mW so won't trample too many high power
(5 - 50W) trackers. Because there are so many high power trackers (in
populated areas) the RTrak and other low powered devices probably
need to transmit more often to have a better chance of being heard.
Especially if you are travelling on the ground at highway speeds, this
will not "impact" any given area for very long in any case. In the air
you will have a larger footprint, but you will still be competing with
the higher powered devices. Consider these things when determining
what are reasonable SmartBeaconing settings.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

307. Contact due to RMA

Yahoo group: RTrak
Date: 2008-09-11 12:02:09 UTC
From: noid1037
Topic: 307 Message: 307

Jason,

Please contact me off-list to discuss the turnaround of the RMA delivered on September 3rd to you location. Thank you.

Noid Wilson
Tampa

308. Status of RTRAK

Yahoo group: RTrak
Date: 2008-09-11 16:55:28 UTC
From: hank205
Topic: 308 Message: 308

Jason:

I tried emailing you privately but I guess you are having problems with email again. I was wondering what the status of my RTRAK was.

Hank
N9ZEU

309. Delighted with the Rtrak

Yahoo group: RTrak
Date: 2008-09-11 17:14:48 UTC
From: Steven Roberts
Topic: 309 Message: 309

HI folks...

I have not posted to this list before; have just been lurking since buying my Rtrak. Thought I'd just make a quick comment of appreciation for a nice unit - I finally installed it in my sailboat (http://www.nomadness.com/blog) a couple weeks ago, and have been getting surprisingly good performance in what I thought would be marginal coverage area. The antenna is just an eBay quarter-wave magmount on the steel deck.

It's been fun getting comments from folks out of the blue, friends can keep an eye on my without waiting for blog postings, and the aprs.fi page shows a beautiful track. Thanks for the nicely integrated product!

Cheers and 73,
Steve
N4RVE

http://microship.com

310. Re: [RTrak] Delighted with the Rtrak

Yahoo group: RTrak
Date: 2008-09-11 21:27:28 UTC
From: Jason Rausch
Topic: 309 Message: 310

Steve,

Thanks for checking in and letting us know how the maritime RTrak is working! I did'nt catch where you are sailing primarily, but if you are ever on the east coast, pull into Virginia Beach and say hi ;o)

I checked your blog for details or pictures, but I did'nt see any. If you have some time, please take a few snapshots of your setup and post them in the group or send them to mail via email. I would love to see them.

That goes for anyone on the list. If you have pictures of your RTrak in action, please share them. I would like to start a customer's photo gallery on the site once I have some collected pictures to post.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- Steven Roberts <wordy@...> wrote:

> HI folks...
>
> I have not posted to this list before; have just
> been lurking since
> buying my Rtrak. Thought I'd just make a quick
> comment of
> appreciation for a nice unit - I finally installed
> it in my sailboat
> (http://www.nomadness.com/blog) a couple weeks ago,
> and have been
> getting surprisingly good performance in what I
> thought would be
> marginal coverage area. The antenna is just an eBay
> quarter-wave
> magmount on the steel deck.
>
> It's been fun getting comments from folks out of the
> blue, friends
> can keep an eye on my without waiting for blog
> postings, and the
> aprs.fi page shows a beautiful track. Thanks for

> the nicely
> integrated product!
>
> Cheers and 73,
> Steve
> N4RVE
>
> http://microship.com
>
>
>

311. Re: [RTrak] Status of RTRAK

Yahoo group: RTrak
Date: 2008-09-11 21:28:10 UTC
From: Jason Rausch
Topic: 308 Message: 311

Hank,

I have your email, I am just swamped and I will get
back to you shortly.

Thanks,
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- hank205 <hank205@...> wrote:

> Jason:
>
> I tried emailing you privately but I guess you are
> having problems with
> email again. I was wondering what the status of my
> RTRAK was.
>
> Hank
> N9ZEU
>
>

312. Re: [RTrak] Delighted with the Rtrak

Yahoo group: RTrak
Date: 2008-09-12 02:54:10 UTC
From: Lynn W. Deffenbaugh (Mr)
Topic: 309 Message: 312

If anyone (especially Steve) is interested in what Digis and/or IGates heard his boat's tracker, check out M-N4RVE.jpg (http://f1.grp.yahoofs.com/v1/IM3JSCb8jQ6h8RoAN5Sk17O0Zv0X2M71ekAxXdLQC4rw3mO8ysoCL2765jWrtAHgF601P0M1HLlkZ74IpplRQ367gl95l6g/M-N4RVE.jpg) that I just uploaded to the group's file section. There's detail buried in that large image, so don't forget to zoom in!

Lynn (D) - KJ4ERJ

PS. Does findu.com or aprs.fi have any features like this?

Steven Roberts wrote:

HI folks...

I have not posted to this list before; have just been lurking since buying my Rtrak. Thought I'd just make a quick comment of appreciation for a nice unit - I finally installed it in my sailboat (http://www.nomadness.com/blog) a couple weeks ago, and have been getting surprisingly good performance in what I thought would be marginal coverage area. The antenna is just an eBay quarter-wave magmount on the steel deck.

It's been fun getting comments from folks out of the blue, friends can keep an eye on my without waiting for blog postings, and the aprs.fi page shows a beautiful track. Thanks for the nicely integrated product!

Cheers and 73,
Steve
N4RVE

http://microship.com

313. Re: Any thoughts?

Yahoo group: RTrak
Date: 2008-09-12 09:21:23 UTC
From: Steve Hatch
Topic: 285 Message: 313

Hi Jason,

Any chance you might be able to call Friday?

Steve - WA7DAD

--- In RTrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> Steve, I will get ahold of you today.
>
> Thanks,
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
> --- In RTrak@yahoogroups.com, Steve Hatch <stephen@> wrote:
> >
> >
> > Hi Jason,
> >
> > I can be reached at:
> >
> > Cell: 206 851-8842
> > Home: 253 205-8588
> >
> > Thanks for your help!
> >
> > Steve - WA7DAD
> >
> > Jason Rausch wrote:
> > >
> > > Steve,
> > >
> > > Please send me an email off-list with a good number that I can
> > > contact you at.
> > >
> > > email: jason@ <mailto:jason%40rpc-electronics.com>
> > >
> > > Thanks,
> > > Jason KE4NYV
> > > RPC Electronics
> > > www.rpc-electronics.com
> > >
> > > --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com>,
> "Steve
> > > Hatch" <stephen@> wrote:

> > > >
> > > > Hi Jason,
> > > >
> > > > Any thoughts as to what I might try to get my tracker running? I
> > > am
> > > > supposed to be demonstrating it's function to our City Emergency
> > > > Manager the first week of September. Any chance we can get it
> > > going
> > > > in time? If we can make a good showing in the demo, they will
> > > likely
> > > > want to purchase more.
> > > >
> > > > Thanks for your help,
> > > >
> > > > Steve - WA7DAD
> > > >
> > >
> > >
> >
>

314. Re: Delighted with the Rtrak

Yahoo group: RTrak
Date: 2008-09-12 17:38:51 UTC
From: Steve Roberts
Topic: 309 Message: 314

Lynn...

Wow, that is a beautiful and revealing image... how did you do that? I noticed while in Friday harbor (the spot at the bottom of the black track, in a protected bay open to the east) that posits only made it once or twice a day; interesting to see that they were geographically anomalous as well and likely the result of localized propagation variations.

May I use that image on my blog post about the Rtrak?

Jason, I'll get a photo... it's in a bit of a rat's nest, tucked inelegantly with some instruments into the pod over the companionway, but that was the only available spot in this steel vessel and it was a field-expedient install (sticky-back velcro and cable ties). There will be a more permanent installation in the comm bay over the winter; this on-water test reveals that it's a keeper.

I am frankly surprised at the performance, as I am used to a 25-watt tracker (Yaesu 290, Kantronics KPC-3+, Garmin GPS-35, and twin-lead J-pole) for my kayak:

http://microship.com/resources/harsh-environment-aprs.html

This is sure a lot easier, and seems to work better as well.

Cheers and 73,
Steve
N4RVE

315. Re: Delighted with the Rtrak

Yahoo group: RTrak
Date: 2008-09-15 17:52:12 UTC
From: Steve Roberts
Topic: 309 Message: 315

Hi folks...

My latest Nomadness blog <http://www.nomadness.com/blog> talks about the Rtrak... thought y'all might enjoy seeing it.

Cheers from... well, you know where!

Steve

316. Soft copy of RTrak manual?

Yahoo group: RTrak
Date: 2008-09-26 13:17:06 UTC
From: John
Topic: 316 Message: 316

New on the list and awaiting delivery of the RTrak, but curious if anyone has a .pdf copy of the user manual? You can email directly or upload to the files section, that would be much appreciated.

I am looking forward to receiving, (or is that transmitting?) my RTrak.

John kb4yfk
kb4yfk at cox dot net - for direct email

317. New file uploaded to RTrak

Yahoo group: RTrak
Date: 2008-10-03 01:41:42 UTC
From: RTrak@yahoogroups.com
Topic: 292 Message: 317

```
Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the RTrak
group.

File : /rtrakmanual.pdf
Uploaded by : ke4nyv <lists@...>
Description : RTrak User's Manual

You can access this file at the URL:
http://groups.yahoo.com/group/RTrak/files/rtrakmanual.pdf

To learn more about file sharing for your group, please visit:
http://help.yahoo.com/l/us/yahoo/groups/original/members/web/index.htmlfiles

Regards,

ke4nyv <lists@...>
```

318. Anyone in the Minneapolis/St. Paul metro that could get together with me is week?

Yahoo group: RTrak
Date: 2008-10-04 22:45:20 UTC
From: Jim Tolbert
Topic: 318 Message: 318

Hi, all.....

I am going to be in the Minneapolis / St. Paul metro area on Thursday and Friday (10/9 & 10) . I will have my days free and I am having trouble with my setup. I am wondering if anyone happened to be available either day (during the day) when they could work with me a bit.

I have Xastir running on a laptop running openSUSE. This is connected to an Alinco DR-135 with a T2-135 inside. For trackers, I have a borrowed OT+ with a 2m handheld and Magellen GPS. The second tracker is a borrowed Rtrak. My interest is in using an expanded setup for SAR.

Anyone available? I would really appreciate it.

Please contact me offline at ..... RiverRidge@...

Many thanks ..... jt

--
Jim Tolbert

715-866-4398 home office

RiverRidge@...

319. looking for

Yahoo group: RTrak
Date: 2008-10-06 21:57:12 UTC
From: vo1um
Topic: 319 Message: 319

this is off topic but does anyone have an extra gps they would like to sell. i need one for my car.

320. Rtrak antenna and power pack for new user

Yahoo group: RTrak
Date: 2008-10-10 18:50:03 UTC
From: gopherbar
Topic: 320 Message: 320

Hello!

I just got onto the Rtrak build list and while I am patiently waiting I would like to ask the group about experiences/preferences for antenna and power pack selection for portable use. I poked about the group archives but only found product information (but that is an important supplement to the RPC website! I especially appreciated being able to read the manual prior to purchase.) and operational questions.

I would like to set up my unit self-contained for placement in a variety of vehicles and possibly back-pack, depending on the trip-of-the-day. (Although through Anderson connectors I would sneak tapping into my own vehicles' power system.) Perhaps group members would care to describe particularly good or bad ground-oriented installations they have tried?

best regards, hugh
AA0HP
Seattle

321. RTrak antenna choice and power cord

Yahoo group: RTrak
Date: 2008-10-16 03:50:49 UTC
From: gopherbar
Topic: 321 Message: 321

I'm disappointed that I didn't get a peep in reply to my earlier question on the RTrak Group. Maybe this means APRS tracking is so absorbing that there is no time to read the group news. Nevertheless, I have been sorting though possible 2M antennas, balancing bulk and portability.
I am leaning toward the Diamond MR77SMA, a 1/4 wave design with a 13 foot feedline. <http://www.rfparts.com/diamond/mr77.html>
Is this length comparable to the GPS antenna feedline length on the RTrak?

I am also considering the Diamond RH77SNA in a direct mount in a self-contained configuration.
<http://www.rfparts.com/diamond/rh77ca.html> Is it a problem to trim the GPS antenna feedline short(er) for local placement? Replacing the SNA connector looks straightforward, with careful technique. As a bonus, I could swap this antenna onto my HT for other portable operations.

In either case, note that I will replace the car-plug power cord end with Anderson Powerpoles. I would like to know if there is an opportunity to have the Powerpole ends included in the initial construction. I still have to research a good portable powerpack, though. The Powerpole ends are simply compatable with my portable base power supply at this point.

cheers, hugh
AA0HP
Seattle

322. Re: [RTrak] RTrak antenna choice and power cord

Yahoo group: RTrak
Date: 2008-10-16 15:00:33 UTC
From: Dan Dawson
Topic: 321 Message: 322

On Oct 15, 2008, at 8:50 PM, gopherbar wrote:

> I'm disappointed that I didn't get a peep in reply to my earlier
> question on the RTrak Group.

I don't have much to offer on the antenna question. There are so many antennas out there, anything that's good for voice will be just fine for APRS. Of your two options listed I can see places where each would be perfect. If you plan on using it backpack or bicycle portable, the direct mount option would definitely be the easiest. But if it's vehicle mobile, a larger antenna is going to probably work better.

I just plug mine in to my Larsen NMO2/70B Dual Band VHF/UHF that I have on my car when I'm mobile:

http://ki6esh.com/blog/2007/09/08/a-pretty-good-day/

> In either case, note that I will replace the car-plug power cord end
> with Anderson Powerpoles.

That should be a pretty easy project. The question about having them built in, I don't know the answer to that but you could probably find a way to drill out one end of the case and mount them in there, then run a short wire back to the board and solder it to the power pads if you needed to. Might be easier than soldering the connectors direct to the board and aligning the hole in the case, plus it would remove stress from the board.

Otherwise just attach them to a short length of wire with the default power plug on them. With that default plug you have to be a bit careful plugging it in... if it has power applied when you plug it in if my memory serves me correctly I think I blew a fuse once if it shorted to the aluminum case.

> I still have to research a good portable powerpack

That's the comment that prompted my reply, I've been thinking about options for this as well. In an ideal world I'd like a fairly small pack (something about the size of the RTrack) that had charging options of both wall power as well as finding an option for a solar panel and charge controller if necessary. Ability to charge off of a vehicle would be good as well, I just want to be as versatile as possible with it.

Some options might be found here:

http://batteriesamerica.com/newpage4.htm
http://www.batteryspace.com/index.asp?PageAction=VIEWCATS&Category=775
http://www.batteryspace.com/index.asp?PageAction=VIEWCATS&Category=712

Then you could just make your power lead with clips to the battery terminals and powerpoles on the other end. While you're building power cables, I'd recommend carrying a 12-v Auto to powerpole cable in case you ever need it ;-)

Hope that helps, and I'd love to see what other people have come up with for their portable power solutions.

Dan Dawson
http://ki6esh.com

323. Re: [RTrak] RTrak antenna choice and power cord

Yahoo group: RTrak
Date: 2008-10-16 18:18:05 UTC
From: Keith VE7GDH
Topic: 321 Message: 323

Hugh AA0HP wrote...

> I have been sorting though possible 2M antennas, balancing bulk and
> portability. I am leaning toward the Diamond MR77SMA, a 1/4 wave
> design with a 13 foot feedline. www.rfparts.com/diamond/mr77.html
> Is this length comparable to the GPS antenna feedline length on the
> RTrak?

The feedline on that antenna is a bit longer than the coax on the supplied GPS antenna. At VHF, feedline losses should be considered, especially with a transmitter that it is only putting out 500 mW. Unless you need the longer length, consider shortening the coax to the VHF antenna.

> I am also considering the Diamond RH77SNA in a direct mount in a
> self-contained configuration. www.rfparts.com/diamond/rh77ca.html
> Is it a problem to trim the GPS antenna feedline short(er) for local
> placement? Replacing the SNA [actually SMA] connector looks
> straightforward, with careful technique. As a bonus, I could swap this
> antenna onto my HT for other portable operations.

I will eventually be shortening the coax on the GPS antenna on my RTrak when it finds a (semi) permanent home. For now, it is coiled up and held onto the case by the same two elastic bands that usually keeps the battery attached to it. The GPS antenna is often tucked under the elastic bands too.

I tried my RTrak with two flexible dual band whips... one from MFJ and one from Comet. They are in the 14 to 17 inch range. To be honest, performance wasn't very good. I think that at 500 mW, you need all the help you can get from the antenna. However, the frequency is quite busy in my neck of the woods. I added 19" of wire under one of the case screws and performance didn't increase. However, connected to a half wave antenna, performance from the RTrak was as good as an OT connected to an FT-1500 running 10 watts. The half wave was a mag mount, so not suitable for mounting right on the RTrak. I would be interested in hearing how a quarter wave or other short whip right on the RTrak does when there are less packet collisions in a quieter environment.

> In either case, note that I will replace the car-plug power cord end
> with Anderson PowerPoles. I would like to know if there is an
> opportunity to have the Powerpole ends included in the initial
> construction. I still have to research a good portable powerpack,
> though. The Powerpole ends are simply compatible with my portable
> base power supply at this point.

I chopped the supplied power cable and added Anderson PowerPoles on both ends. I can either connect it to a LiPo battery from one of my RC planes (much smaller and lighter than alkaline AAs) or rejoin the cable and plug it into 12V if it's in a vehicle. I should add a low voltage cut-out circuit for the 3 cell LiPo batteries, but a fully charged battery will run the RTrak for much longer than I will normally use it for.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

324. RTrak-Lite Sneak Peak

Yahoo group: RTrak
Date: 2008-10-16 21:29:31 UTC
From: Jason Rausch
Topic: 324 Message: 324

I have been working on a couple new RTrak designs in the last few months.

The RTrak-Lite is close to done. This version is smaller in size and does NOT have a built-in 2M radio. When the original RTrak was released there was an immediate call for a higher power radio and a receiver. Since I did not design the MX-146 used, I had to go with what I can buy from my suppliers. Right now, there is just not an economical transceiver module availble.

The RTrak-Lite is meant to fill the void for those who wish to have the tracker and GPS in a small package and then cable it to the radio of their choice. This gives them the flexibility to decide on power output, ability to receive packets and detect channel activity and even use the RTrak as a full OpenTracker 1+.

Key Features:

- OpenTracker 1+ Engine On-Board (no plug-in module)
- Full support of OT1+'s ability to decode packets
- MN5010HS Sirf GPS Receiver (<30 second lock time from cold start)
- Small Size - Board is only 51mm X 80mm
- Simplified RJ-45 Radio Interface
- Removed need for RUN/PROGRAM switch
- Simple Two LED status on front panel (Power and ACT)
- SMA connector for included GPS patch antenna

Here are some pictures of the latest prototype that I am testing with:

http://www.rpc-electronics.com/img/rtrak/lite/rtraklite001.jpg

http://www.rpc-electronics.com/img/rtrak/lite/rtraklite002.jpg

http://www.rpc-electronics.com/img/rtrak/lite/rtraklite003.jpg

http://www.rpc-electronics.com/img/rtrak/lite/rtraklite004.jpg

I would appreciate comments and suggestions.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

325. Re: Rtrak antenna and power pack for new user

Yahoo group: RTrak
Date: 2008-10-16 21:38:14 UTC
From: Jason Rausch
Topic: 320 Message: 325

Hugh,

There are a couple of suggested ways to power the RTrak for portable use.

1. Two 9V batteries in series. This provides an initial 18VDC that will slowly decrease over about a 4-5 hour period.

2. An eight cell AA pack will also run the RTrak for quite some time.

3. Three or four cell LiPoly pack, like Keith mentioned.

I have personally tested the first two. Originally I started with the eight AA pack for longevity, but moved to the two 9V batteries for size and weight. The two 9V batteries are what we are working into our coming RTrak-SAR (search and rescue) version.

I beleive a majority of the RTrak users so far have used them strictly in the manner of which the RTrak was designed. Basically plug it into a lighter plug, throw the antenna on the roof and go.

I am curious how people outside of the US are dealing with different mobile voltages such as 24VDC systems. The internal regulators are rated for an input voltage of up to 35VDC, so you should be able to just plug it right into a 24VDC system without any problems.

Hope that helps!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "gopherbar" <aa0hp@...> wrote:

> I just got onto the Rtrak build list and while I am patiently waiting
> I would like to ask the group about experiences/preferences for
> antenna and power pack selection for portable use. I poked about the
> group archives but only found product information (but that is an
> important supplement to the RPC website! I especially appreciated
> being able to read the manual prior to purchase.) and operational
> questions.
>
> I would like to set up my unit self-contained for placement in a
> variety of vehicles and possibly back-pack, depending on the
> trip-of-the-day. (Although through Anderson connectors I would sneak

> tapping into my own vehicles' power system.) Perhaps group members
> would care to describe particularly good or bad ground-oriented
> installations they have tried?
>
> best regards, hugh
> AA0HP
> Seattle
>

326. Re: RTrak antenna choice and power cord

Yahoo group: RTrak
Date: 2008-10-16 21:45:41 UTC
From: Jason Rausch
Topic: 321 Message: 326

> The feedline on that antenna is a bit longer than the coax on the
> supplied GPS antenna. At VHF, feedline losses should be considered,
> especially with a transmitter that it is only putting out 500 mW.
Unless
> you need the longer length, consider shortening the coax to the VHF
> antenna.

100% agreement here. Our mobile tests consisted of a 5/8 wave whip
on a magmount. The coax for the magmount was 17 feet. This worked
pretty well for us. The results can vary depending on terrain,
antenna gain, loss due to poor coax and even placement of the antenna
on the vehicle.

I will echo keeping the coax as short as practical.

> I tried my RTrak with two flexible dual band whips... one from MFJ
and
> one from Comet. They are in the 14 to 17 inch range. To be honest,
> performance wasn't very good. I think that at 500 mW, you need all
the
> help you can get from the antenna. However, the frequency is quite
busy
> in my neck of the woods.

We have used basically long rubber ducks for demos at shows and the
performance has been decent for short ranges. You're right Keith,
you do need all of the help you can get when you are only dealing
with 500mW.

We have decent digi coverage in our area and an RTrak tends to do
decently. That is really the name of the game. Get the packet to a
digi and then let the network go with it.

I added 19" of wire under one of the case
> screws and performance didn't increase. However, connected to a half
> wave antenna, performance from the RTrak was as good as an OT
> connected to an FT-1500 running 10 watts. The half wave was a mag
> mount, so not suitable for mounting right on the RTrak.

Yep, our 5/8 wave setup did a bang-up job for us.

> I chopped the supplied power cable and added Anderson PowerPoles
> on both ends.

Many people have reported to me that they have done this. It's a
matter of making things more flexible for yourself :o)

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

327. GPS problem?

Yahoo group: RTrak
Date: 2008-11-24 18:31:43 UTC
From: Norm Barton
Topic: 327 Message: 327

Recently... my RTrak has developed a problem with getting a GPS lock... several tests show that it takes 3 hours from power up of unit until GPS lock and beacon... then it works fine (several hours) until I shut down and reapply power... another 3 hours to GPS lock... all under same conditions with GPS antenna in good location... I have searched the files here but did not find a similar problem...

Any suggestions?

Thanks
Norm ve7bzc

328. Re: [RTrak] GPS problem?

Yahoo group: RTrak
Date: 2008-11-24 19:31:09 UTC
From: Keith VE7GDH
Topic: 327 Message: 328

Norm VE7BZC wrote...

> Recently... my RTrak has developed a problem with getting a GPS
> lock... several tests show that it takes 3 hours from power up of unit
> until GPS lock and beacon... then it works fine (several hours) until
> I shut down and reapply power... another 3 hours to GPS lock... all
> under same conditions with GPS antenna in good location... I have
> searched the files here but did not find a similar problem...

Is it one of the early ones that needed the capacitor mod on the regulator that feeds the GPS receiver so the voltage out of the regulator ramped up more slowly? How much current is it drawing when you first power it on? What is the draw when you power cycle it? If you can't measure the current, does the case get noticeably warm after a while? If you pop the lid and power it on, the regulators should be cool. If you power cycle it and it draws abnormal current, the voltage regulator feeding the GPS receiver will run warm... if it doesn't have the capacitor mod.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

329. Re: GPS problem?

Yahoo group: RTrak
Date: 2008-11-26 01:52:20 UTC
From: Jason Rausch
Topic: 327 Message: 329

Keith pretty much touched on all of the key things to check out. There is a good chance that if your unit it from the first round, you are experiencing the high current, "toasty tracker" problem. The cap is a must-do to fix this problem. My offer to mod for those who already have units or send them a free cap to do it themselves is still open.

Also, please check your GPS antenna cable. Has it been slammed in any doors or beat up? One customer sent me back a GPS antenna from his RTrak that had a pretty good pinch it in from a car door. It worked on and off because there were times he was in the shade and the antenna was not able to pick up anything, but when he had a clear, open view of the sky, it worked. My only guess is that the antenna had a very poor signal getting from it to the RTrak and had a fighting chance with the full view and the shaded times were just enough to kill it all together.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@...> wrote:
>
> Norm VE7BZC wrote...
>
> > Recently... my RTrak has developed a problem with getting a GPS
> > lock... several tests show that it takes 3 hours from power up of
unit
> > until GPS lock and beacon... then it works fine (several hours)
until
> > I shut down and reapply power... another 3 hours to GPS lock...
all
> > under same conditions with GPS antenna in good location... I have
> > searched the files here but did not find a similar problem...
>
> Is it one of the early ones that needed the capacitor mod on the
> regulator that feeds the GPS receiver so the voltage out of the
> regulator ramped up more slowly? How much current is it drawing
> when you first power it on? What is the draw when you power cycle
> it? If you can't measure the current, does the case get noticeably
> warm after a while? If you pop the lid and power it on, the
regulators
> should be cool. If you power cycle it and it draws abnormal
current, the
> voltage regulator feeding the GPS receiver will run warm... if it
> doesn't have the capacitor mod.

```
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"
>
```

330. Re: GPS problem?

Yahoo group: RTrak
Date: 2008-11-27 19:41:21 UTC
From: UI-view
Topic: 327 Message: 330

Thank you Jason and Keith...

I will be working on your suggestions and report back when completed...

Norm ve7bzc

331. Re: GPS problem?

Yahoo group: RTrak
Date: 2008-11-29 22:07:33 UTC
From: Norm Barton
Topic: 327 Message: 331

--- In RTrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> Keith pretty much touched on all of the key things to check out.
> There is a good chance that if your unit it from the first round, you
> are experiencing the high current, "toasty tracker" problem. The cap
> is a must-do to fix this problem. My offer to mod for those who
> already have units or send them a free cap to do it themselves is
> still open.
>
> Also, please check your GPS antenna cable. Has it been slammed in
> any doors or beat up? One customer sent me back a GPS antenna from
> his RTrak that had a pretty good pinch it in from a car door. It
> worked on and off because there were times he was in the shade and
> the antenna was not able to pick up anything, but when he had a
> clear, open view of the sky, it worked. My only guess is that the
> antenna had a very poor signal getting from it to the RTrak and had a
> fighting chance with the full view and the shaded times were just
> enough to kill it all together.
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>
> --- In RTrak@...m, "Keith VE7GDH" <ve7gdh@> wrote:
> >
> > Norm VE7BZC wrote...
> >
> > > Recently... my RTrak has developed a problem with getting a GPS
> > > lock... several tests show that it takes 3 hours from power up of
> unit
> > > until GPS lock and beacon... then it works fine (several hours)
> until
> > > I shut down and reapply power... another 3 hours to GPS lock...
> all
> > > under same conditions with GPS antenna in good location... I have
> > > searched the files here but did not find a similar problem...
> >
> > Is it one of the early ones that needed the capacitor mod on the
> > regulator that feeds the GPS receiver so the voltage out of the
> > regulator ramped up more slowly? How much current is it drawing
> > when you first power it on? What is the draw when you power cycle
> > it? If you can't measure the current, does the case get noticeably
> > warm after a while? If you pop the lid and power it on, the
> regulators

> > should be cool. If you power cycle it and it draws abnormal
> current, the
> > voltage regulator feeding the GPS receiver will run warm... if it
> > doesn't have the capacitor mod.
> >
> > 73 es cul - Keith VE7GDH
> > --
> > "I may be lost, but I know exactly where I am!"
> >
>

To Jason and Keith, and any others interested:

My findings:

Voltage to GPS antenna = 3.0 Vdc
Current draw 32 mA (no abnormal current draw on power up)

Inspection shows that the 'cap' mod has been done.
The LM317 regulator does not run hot.

A simple cable inspection and 'shake' test for breaks, with meter
attached to cable, did not produce any noticeable results.

I am considering the purchase of another GPS antenna, to use as a
spare and to eliminate the GPS antenna as the problem.

Thanks again for your suggestions.

73
Norm ve7bzc

332. Re: [RTrak] Re: GPS problem?

Yahoo group: RTrak
Date: 2008-11-30 01:04:13 UTC
From: Keith VE7GDH
Topic: 327 Message: 332

Norm VE7BZC wrote...

> Voltage to GPS antenna = 3.0 Vdc / Current draw 32 mA...
> Inspection shows that the 'cap' mod has been done.
> The LM317 regulator does not run hot.
> A simple cable inspection and 'shake' test for breaks, with meter
> attached to cable, did not produce any noticeable results...

Everything sounds pretty normal... except you mentioned earlier that it takes 3 hours to get a lock! Try connecting it to a PC with a null modem adapter or cable in line with the programming cable. You should see NMEA data in a terminal program, or better yet, fire up something like VisualGPS to take a look at the data it is spitting out.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

333. Re: GPS problem?

Yahoo group: RTrak
Date: 2009-01-05 16:54:41 UTC
From: Jason Rausch
Topic: 327 Message: 333

Norm,

Did you ever get this sorted out?

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@...> wrote:
>
> Norm VE7BZC wrote...
>
> > Voltage to GPS antenna = 3.0 Vdc / Current draw 32 mA...
> > Inspection shows that the 'cap' mod has been done.
> > The LM317 regulator does not run hot.
> > A simple cable inspection and 'shake' test for breaks, with meter
> > attached to cable, did not produce any noticeable results...
>
> Everything sounds pretty normal... except you mentioned earlier
that it
> takes 3 hours to get a lock! Try connecting it to a PC with a null
modem
> adapter or cable in line with the programming cable. You should see
> NMEA data in a terminal program, or better yet, fire up something
> like VisualGPS to take a look at the data it is spitting out.
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"
>

334. RTrak in 2009 February QST!

Yahoo group: RTrak
Date: 2009-02-15 22:51:02 UTC
From: Jason Rausch
Topic: 334 Message: 334

In the 2009 February issue of QST, the RTrak was reviewed by the QST staff. The article was very positive and covered the RTrak well. We're very proud of it and we're happy to see that QST gave us high marks for quality and performance.

For those who do not get QST, I have uploaded a .pdf version to the files section of the group.

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

335. Re: RTrak in 2009 February QST!

Yahoo group: RTrak
Date: 2009-03-01 19:50:17 UTC
From: Paul Guido
Topic: 334 Message: 335

Nice Article in QST. I have been looking for a self contained tracker like this for my motorcycle.

How much current does the RTrak draw for receive and how much for transmit?

How much heat can the unit take? How much heat does it dissipate?

How can I water proof the unit?

I have a number of mounting options on my Motorcycle since it is a large touring bike. A Victory Vision Tour with the trunk.

73

Paul Guido, N5IUT

--- In RTrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> In the 2009 February issue of QST, the RTrak was reviewed by the QST
> staff. The article was very positive and covered the RTrak well.
> We're very proud of it and we're happy to see that QST gave us high
> marks for quality and performance.
>
> For those who do not get QST, I have uploaded a .pdf version to the
> files section of the group.
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>

336. Motorcycle mount

Yahoo group: RTrak
Date: 2009-03-05 16:56:06 UTC
From: Hugh Poling
Topic: 336 Message: 336

Just a note to say I am planning to mount my RTrack in the small afterseat compartment on my BMW R75S. Since this is a *fairly* protected spot, I will probably end up making a small outdoor-fabric pouch as rainsuit protection against the odd splash while keeping it easy to redeploy for "pedistrian mobile".

Another mission was to place it on a friend's boat, where I was was going to use one of those snap-lid waterproof food-storage boxes as protection from direct water splashing. Unfortunately, the boat will be laid up for awhile getting a new deck so no joy there. Interesting part of planning the install was exercising 4NEC2 to ensure an antenna design that would be reasonably omni-directional in the presence of tall aluminum mast and nearby stainless steel railing. Final design is a vertical dipole with two bottom radiators. Lengths tuned to adjust resonant frequency in that particular environment and angle of bottom radiators adjusted to get target feedpoint impedance. Main point of saying this is that a "stock" antenna would have been compromised by nearby conductors and modeling provides insight how to compensate.

cheers, hugh
AA0HP Seattle

Posted by: "Paul Guido" radioteacher@... n5iut
Date: Wed Mar 4, 2009 1:09 pm ((PST))

Nice Article in QST. I have been looking for a self contained tracker
like this for my motorcycle.

How can I water proof the unit?

_____
Sign up for FREE email from PRAISE 106.5 at http://www.praise1065.com/

A ministry of CRISTA http://www.crista.org/

337. New file uploaded to RTrak

Yahoo group: RTrak
Date: 2009-03-09 22:11:43 UTC
From: RTrak@yahoogroups.com
Topic: 292 Message: 337

```
Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the RTrak
group.

File : /rtrak_cd.zip
Uploaded by : ke4nyv <lists@...>
Description : RTrak V1.0 CD Files

You can access this file at the URL:
http://groups.yahoo.com/group/RTrak/files/rtrak_cd.zip

To learn more about file sharing for your group, please visit:
http://help.yahoo.com/l/us/yahoo/groups/original/members/web/index.htmlfiles

Regards,

ke4nyv <lists@...>
```

338. Serial programming cable

Yahoo group: RTrak
Date: 2009-04-19 19:59:28 UTC
From: ad8bc
Topic: 338 Message: 338

Well, it had to happen. I misplaced my R-trak programming cable. Does anybody have the schematic/pinout for it? Is there a RS-232/TTL converter that I will need to build?

Thanks,

Bill AD8BC

339. Re: [RTrak] Serial programming cable

Yahoo group: RTrak
Date: 2009-04-20 16:55:04 UTC
From: Keith VE7GDH
Topic: 338 Message: 339

Bill AD8BC wrote...

> Well, it had to happen. I misplaced my R-trak programming cable. Does
> anybody have the schematic/pinout for it? Is there a RS-232/TTL
> converter that I will need to build?

I don't seem to be able to find my cable either, but there's nothing special in the cable... 5, 2 and 3 on the DE-9, and 5 is ground. It will go to the sleeve on the RTrak end. If you use trial-and-error to figure out the other two, you can't hurt anything. It will either work or it won't.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

340. Re: Serial programming cable

Yahoo group: RTrak
Date: 2009-04-21 22:03:46 UTC
From: Jason Rausch
Topic: 338 Message: 340

Keith pretty much answered the question, but the major points are:

- Use a 3/32" (2.5mm) stereo plug
- Sheild is ground
- Tip and ring are TXD and RXD, but I can't remember which is which

Like Keith suggested, simply try it one way and then swap if it doesn't work. Process of elimination :o)

Just to let everyone know, I am about 99% packed for a move to a new home. I took a new job with NASA and we are moving about 3 hours away. Once we can get moved in and set back up, we will resume with order shipping, especially the current RTrak orders in que. Any move is a pain, but we are looking forward to getting there and getting back "in the norm".

Regardless, we still plan to be at Dayton and look forward to seeing everyone.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@...> wrote:
>
> Bill AD8BC wrote...
>
> > Well, it had to happen. I misplaced my R-trak programming cable. Does
> > anybody have the schematic/pinout for it? Is there a RS-232/TTL
> > converter that I will need to build?
>
> I don't seem to be able to find my cable either, but there's nothing
> special in the cable... 5, 2 and 3 on the DE-9, and 5 is ground. It will
> go to the sleeve on the RTrak end. If you use trial-and-error to figure
> out the other two, you can't hurt anything. It will either work or it
> won't.
>
> 73 es cul - Keith VE7GDH
> --
> "I may be lost, but I know exactly where I am!"
>

341. Re: Serial programming cable

Yahoo group: RTrak
Date: 2009-04-22 22:16:37 UTC
From: ad8bc
Topic: 338 Message: 341

Thanks Jason, be safe in your move! Look forward to seeing you in Dayton!

--- In RTrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> Keith pretty much answered the question, but the major points are:
>
> - Use a 3/32" (2.5mm) stereo plug
> - Sheild is ground
> - Tip and ring are TXD and RXD, but I can't remember which is which
>
> Like Keith suggested, simply try it one way and then swap if it doesn't work. Process of elimination :o)
>
> Just to let everyone know, I am about 99% packed for a move to a new home. I took a new job with NASA and we are moving about 3 hours away. Once we can get moved in and set back up, we will resume with order shipping, especially the current RTrak orders in que. Any move is a pain, but we are looking forward to getting there and getting back "in the norm".
>
> Regardless, we still plan to be at Dayton and look forward to seeing everyone.
>
> Thanks!
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>
> --- In RTrak@yahoogroups.com, "Keith VE7GDH" <ve7gdh@> wrote:
> >
> > Bill AD8BC wrote...
> >
> > > Well, it had to happen. I misplaced my R-trak programming cable. Does
> > > anybody have the schematic/pinout for it? Is there a RS-232/TTL
> > > converter that I will need to build?
> >
> > I don't seem to be able to find my cable either, but there's nothing
> > special in the cable... 5, 2 and 3 on the DE-9, and 5 is ground. It will
> > go to the sleeve on the RTrak end. If you use trial-and-error to figure
> > out the other two, you can't hurt anything. It will either work or it
> > won't.
> >
> > 73 es cul - Keith VE7GDH
> > --
> > "I may be lost, but I know exactly where I am!"
> >
>

342. Is Jason ok ?

Yahoo group: RTrak
Date: 2009-06-15 19:08:13 UTC
From: osuhkey99
Topic: 342 Message: 342

Has anyone heard from Jason ? I dropped off a traker at Dayton for him to look at. About 3 weeks ago, he said he would look at it and send it back the next day. Since then, no traker and no response to subsequent emails. Hope he is still in business ?

Dick, W1RRD

343. Re: Is Jason ok ?

Yahoo group: RTrak
Date: 2009-06-15 20:06:27 UTC
From: Jason Rausch
Topic: 342 Message: 343

Dick and All,

I am fine. Got back from Dayton and had a pile of orders and work to crawl out from under. Work has been busy too, we launched a large rocket the day I came back. We launched a small one a week ago and we have a fairly large launch this week. I have been working some late hours getting ready.

This has cut into my work time when I get home to get orders filled and repairs completed.

Dick, I shot you an email the other night to let you know your RTrak is on my bench and will be repaired tonight. Should go out tomorrow. I'm sorry about the long wait.

Everyone else, if you are waiting on a repair, RTrak order to ship or anything else, we are working on it. The RTrak-LP is coming along, but we ran into a TX audio problem that must be corrected before we ship any of the new units.

A big thanks to everyone being so patient with us!

Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "osuhkey99" <w1rrd@...> wrote:
>
> Has anyone heard from Jason ? I dropped off a traker at Dayton for him to look at. About 3 weeks ago, he said he would look at it and send it back the next day. Since then, no traker and no response to subsequent emails. Hope he is still in business ?
>
> Dick, W1RRD
>

344. Re: Is Jason ok ?

Yahoo group: RTrak
Date: 2009-06-16 13:45:09 UTC
From: osuhkey99
Topic: 342 Message: 344

Jason,
Thanks for the response. Just glad to hear your ok.

Dick, W1RRD

--- In RTrak@yahoogroups.com, "Jason Rausch" <lists@...> wrote:
>
> Dick and All,
>
> I am fine. Got back from Dayton and had a pile of orders and work to crawl out from under. Work has been busy too, we launched a large rocket the day I came back. We launched a small one a week ago and we have a fairly large launch this week. I have been working some late hours getting ready.
>
> This has cut into my work time when I get home to get orders filled and repairs completed.
>
> Dick, I shot you an email the other night to let you know your RTrak is on my bench and will be repaired tonight. Should go out tomorrow. I'm sorry about the long wait.
>
> Everyone else, if you are waiting on a repair, RTrak order to ship or anything else, we are working on it. The RTrak-LP is coming along, but we ran into a TX audio problem that must be corrected before we ship any of the new units.
>
> A big thanks to everyone being so patient with us!
>
> Jason KE4NYV
> RPC Electronics
> www.rpc-electronics.com
>
>
> --- In RTrak@...m, "osuhkey99" <w1rrd@> wrote:
> >
> > Has anyone heard from Jason ? I dropped off a traker at Dayton for him to look at. About 3 weeks ago, he said he would look at it and send it back the next day. Since then, no traker and no response to subsequent emails. Hope he is still in business ?
> >
> > Dick, W1RRD
> >
>

345. initial use of RTrak and request for LED description

Yahoo group: RTrak
Date: 2009-07-20 03:40:42 UTC
From: gopherbar
Topic: 345 Message: 345

Hello!
I finally got the ancillary bits together to try out my RTrak in preparation for mounting in motorbike. I'm disappointed that I seem to be overlooking *something* to show up on http://www.nwaprs.net/

My RTrak setup uses a small gel-battery, with 11.x volts showing in the RTrak programmer diagnostic. I've tried both a Smiley "1/2 wave" 2m antenna (1.2 SWR) and the intended 1/4 wave antenna for the motorbike, which uses a small aluminum travel rack as the "counterpoise" (2.1 SWR). I used the programmer to initially update the default settings with my call sign, our local path (WIDE1-1,WIDE2-1 per http://www.nwaprs.info/) and frequency of 144.390 MHz.

We have enough APRS traffic that it is hard to tell if my unit is transimitting, using an HT to monitor. I moved up to 144.79 and, as a clear channel, found the RTrak to transmit fine.

Initially, I tested inside my house but have now set the unit outside with a clear view of the sky. Maybe it takes awhile to show up in the tracking system?

In any case, I am asking for guidance diagnosing what the RTrak is doing. One piece of information to get me started might be an explanation of what the LEDs show in "program" and "run" modes. In run mode, mine seem to blink red counting seconds over the interval between transmissions, then either some red or green flashes.

thanks for the help, hugh
AA0HP Seattle

346. new user update

Yahoo group: RTrak
Date: 2009-07-23 14:28:38 UTC
From: gopherbar
Topic: 346 Message: 346

hello!
I answered my own question on the previous post about LED operation by "discovering" the OpenTracker documentation (as opposed to the RTrak User Guide).

I have been monitoring output of RTrak with a HT set on the same tabletop (path = 3 feet). I pick up other APRS traffic with a certain volume and "modem burst" sound (several flavors) but notice the RTrak signal is noticably fainter and flatter-sounding. I am guessing the lower volume is due to low output power through Smiley "half wave" 2m antenna currently installed. I will look for a set-up to verify quality of the signal though. I am still not showing up on the several APRS tracking websites I check after testing.

cheers, hugh
AA0HP Seattle

347. Re: new user update

Yahoo group: RTrak
Date: 2009-07-23 21:20:37 UTC
From: Jason Rausch
Topic: 346 Message: 347

Hugh,

Sorry that I did not get to this post sooner. I am working as fast as I can to get the new RTrak-LP ready to ship out and many people are waiting on me.

With the first generation RTrak, I noticed that the packets were significantly different sounding than the other on-air traffic. Although different, I did'nt notice much of a performance problem with it. I always felt that the OpenTracker and TinyTrak series of trackers had a bit of flatter, raspier sound to them, than say a Kantronics KPC-3. Not a big deal if they get the job done.

Having said that, after looking into it more, it appears the OT1+ module used in the first gen. RTrak is not matched to the MX146 transmitter perfectly. This has to do with the audio matching circuit on the OT1+ module itself. This is not Scott's fault, rather just a general design that he settled on to match a majority of the radios out there. Since the MX146 is a new radio and I was starting blind from the ground up, there was some room for deviance.

I am looking at modifying the OT1+ module with possible a different voltage divider ie. change some resistor values or possibly change out a transistor. Once I figure out a happy combination, I will offer any RTrak owner the chance to send their unit back to us for the modification. I will also offer up the mod online, but any mods done by a user cannot be warrantied by us. The mod will most likely require the removal and replacement of 0805 surface mount resistors and maybe a single SOT-23 size surface mount transistor.

More info on this when I have it ready.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.om

--- In RTrak@yahoogroups.com, "gopherbar" <aa0hp@...> wrote:
>
> hello!
> I answered my own question on the previous post about LED operation by "discovering" the OpenTracker documentation (as opposed to the RTrak User Guide).
>
> I have been monitoring output of RTrak with a HT set on the same tabletop (path = 3 feet). I pick up other APRS traffic with a certain volume and "modem burst" sound (several flavors) but notice the RTrak signal is noticably fainter and flatter-sounding. I am guessing the lower volume is due to low output power through Smiley "half wave" 2m antenna currently installed. I will look for a set-up to verify quality of the signal though. I am still not showing up on the several APRS tracking websites I check after testing.
>
> cheers, hugh
> AA0HP Seattle

>

348. Re: [RTrak] initial use of RTrak and request for LED description

Yahoo group: RTrak
Date: 2009-07-23 23:24:28 UTC
From: Keith VE7GDH
Topic: 345 Message: 348

Hugh AA0HP wrote...

> My RTrak setup uses a small gel-battery, with 11.x volts showing in
> the RTrak programmer diagnostic. I've tried both a Smiley "1/2 wave"
> 2m antenna (1.2 SWR) and the intended 1/4 wave antenna for the
> motorbike, which uses a small aluminum travel rack as the
> "counterpoise" (2.1 SWR). I used the programmer to initially update
> the default settings with my call sign, our local path
> (WIDE1-1,WIDE2-1 per http://www.nwaprs.info/) and frequency
> of 144.390 MHz.

Your path and frequency should be OK, but you could try 144.990 to see if anything is listening on that frequency in Seattle. My results with an RTrak with a rubber duck or quarter wave right on the RTrak, with or without an additional ground plane were abysmal. However, as soon as I went to a half wave mag mount, performance (at least where I live) was as good as a tracker using an OT1x and an FT-1500 running 10W connected to a 5/8.

I know you have verified that your RTrak is transmitting, but having another TNC and radio for testing would be really useful. If you don't have a TNC, are there any other APRS users close to your location?

> One piece of information to get me started might be an explanation of
> what the LEDs show in "program" and "run" modes.

The red power LED should be on all of the time. The activity light will flash a double-red while the GPS is acquiring and a single green after it has a fix. It be red when it transmits.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

349. Re: [RTrak] new user update

Yahoo group: RTrak
Date: 2009-07-24 00:03:00 UTC
From: Keith VE7GDH
Topic: 346 Message: 349

Hugh AA0HP wrote...

> I answered my own question on the previous post about LED operation by
> "discovering" the OpenTracker documentation (as opposed to the RTrak
> User Guide).

I'm glad to hear that you found the OT documentation. That will help.

> I have been monitoring output of RTrak with a HT set on the same
> tabletop (path = 3 feet). I pick up other APRS traffic with a certain
> volume and "modem burst" sound (several flavors) but notice the RTrak
> signal is noticably fainter and flatter-sounding. I am guessing the
> lower volume is due to low output power through Smiley "half wave" 2m
> antenna currently installed. I will look for a set-up to verify
> quality of the signal though. I am still not showing up on the several
> APRS tracking websites I check after testing.

The "loudness" of an FM signal is a function of the deviation... nothing to do with signal strength or gain of different antennas. It is possible that the deviation is low in your RTrak, but the vast majority of "bad" tones that you hear on the air will be from devices that have the deviation up way too high.

Having another TNC to watch your RTrak transmissions would be a real asset. If the transmit delay was too short, that could prevent other TNCs from decoding your beacons. However, I've used very shorot TXDelay in an RTrak and OTs and still had good results.

Not showing up on the APRS-IS could also just be a function of your location, the half a watt that the RTrak puts out, the antenna you are using, and proximity to digis and IGates around you... and the proliferation of much higher powered trackers competing for air time.

You really need to find out if anything at all can decode your transmissions and go from there.

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

350. Rtrak Order

Yahoo group: RTrak
Date: 2009-08-20 11:26:54 UTC
From: euler357
Topic: 350 Message: 350

I ordered an Rtrak at the Timonium Hamfest and haven't received it yet. Can you please tell me the status?

Thanks,
Chris K Cockrum
KF9DJ

351. Re: Rtrak Order

Yahoo group: RTrak
Date: 2009-08-20 13:12:59 UTC
From: ke4nyv
Topic: 350 Message: 351

Chris and all waiting on an RTrak to come,

We have worked out any design problems and are in the final stages of production. All parts have been ordered and units are being assembled. We are just waiting to hear back from the milling shop on the cases.

Again, we appologize for the long wait. We believe the wait will be worth it. You will be getting a top-notch unit with all of the latest design enhancements, including the better GPS receiver and switching regulator based 5V power system. This reduces the current drain and simplifies the system internally. As well as, a remarkable inprovement on transmit audio level and quality.

Please always feel free to post questions to the group or send them directly to me at jason@rpc-electronics.com I do my best to get right back to you, but if it takes a day or two, please be patient with me.

Thanks!
Jason KE4NYV
RPC Electronics
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "euler357" <ckc@...> wrote:
>
> I ordered an Rtrak at the Timonium Hamfest and haven't received it yet. Can you please tell me the status?
>
> Thanks,
> Chris K Cockrum
> KF9DJ
>

352. Emails Not Getting Answered

Yahoo group: RTrak
Date: 2009-09-02 12:50:54 UTC
From: potshot711
Topic: 352 Message: 352

Not sure where else to go on this.

I placed an order 8/26/09 at the RPC sales-site... paid via Paypal.

Got no confirmation or shipping status.

I sent a folllowup email to sales, asking for status of order. No response.

Surely you have someone there to process orders and answer emails.

Thanks

353. RTRAK Order Status

Yahoo group: RTrak
Date: 2009-09-12 17:48:48 UTC
From: hcc2916
Topic: 353 Message: 353

I ordered an RTRAK unit in February and have not received it as yet. You have already received payment via my payPal account.

Please advise.

Hubert C Connolly
9614 Shepard Place
Wellington, FL 33414
hcc2916@...

354. RTrak-LP Order Status and Other Updates

Yahoo group: RTrak
Date: 2009-09-15 14:13:49 UTC
From: ke4nyv
Topic: 354 Message: 354

Folks,

I am sorry that I have not made this post sooner to the group, but I am snowed under with getting things like the pending RTrak-LP orders ready.

Company Update:

We would like to announce that we have been officially converted to an LLC (Limited Liability Company) by the state of Virginia's business board. We will continue all operations under the LLC name, from now on. One of the benefits of this switch is that we can now accept payments made out to the RPC Electronics, LLC name. We are currently making that change with our bank to reflect this.

The current update with the RTrak-LP orders:

We are currently building units for shipping, but we have ran into some slight delays. One is getting the part for the programming port. Since the latest design eliminates the need for the RUN/PROG switch, we moved to a 100% isolated programming port, but the jack used is on back-order. Luckily, I have some of these in stock and can get almost all pending orders built to ship. There is a current 12 week leadtime on my order of these jacks, but I have an alternate source that I am investigating and will report on when I have more information.

We are also waiting on the milling shop to get back to us with a timeframe to mill the end panels. This should not take long and most likely will be done as we complete the construction of the units. Most likely, everything will come together at the same time.

I BIG thanks to everyone who has stuck in there with us on these orders. We know it has been a long waiting time and we appreciate your patience. As I have said before, I truely believe you are getting a top of the line unit for your money and waiting time.

Product Updates:

We have some new products that were shown and sold for the first time at Dayton this year. We sold out so fast that we did'nt even have time to put them on the webpage. We are working to build stock back up and hope to have those products added to the website shortly. Please check the site weekly for updates. We will also make announcements here.

Please, do not hesitate to us emails with questions or inquiries. We try to get right back to you, but somtimes it takes a day or two when we are really busy.

Thank You,
Jason KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

355. Compiling for WindowsCE / Jornada 720

Yahoo group: RTrak
Date: 2009-11-17 16:06:24 UTC
From: gopherbar
Topic: 355 Message: 355

Hello, group!
I have been tinkering with a old Jornada 720 Handheld PC this year. It uses a special OS, WindowsCE on ARM processor. What this means is that Windows apps need to be compiled special (as well as fiddling with dialog layout to fit on squat 640x240 Jornada screen). I am wondering if RTrak configuration software has already been compiled this way or if the source code is available for recompiling?

thanks, hugh
AA0HP Seattle

356. Re: [RTrak] Compiling for WindowsCE / Jornada 720

Yahoo group: RTrak
Date: 2009-11-19 03:34:43 UTC
From: Scott Miller
Topic: 355 Message: 356

Hi Hugh,

The otwincfg program that configures the OpenTracker+ in the RTrak is written in Visual C++ 6.0 with MFC. The source code is in a public SVN repository if you want to try recompiling it, but I'm not sure how easy that's going to be.

Scott
N1VG

gopherbar wrote:
> Hello, group!
> I have been tinkering with a old Jornada 720 Handheld PC this year. It uses a special OS, WindowsCE on ARM processor. What this means is that Windows apps need to be compiled special (as well as fiddling with dialog layout to fit on squat 640x240 Jornada screen). I am wondering if RTrak configuration software has already been compiled this way or if the source code is available for recompiling?
>
> thanks, hugh
> AA0HP Seattle
>
>
>
> ----------
>
> Yahoo! Groups Links
>
>
>
>

357. RTrak-LP Orders Have Shipped!

Yahoo group: RTrak
Date: 2009-12-28 23:34:48 UTC
From: Jason R
Topic: 357 Message: 357

First, we hope that everyone had a wonderful Christmas and will have a great coming new year!

We brought in the tail-end of the year with a successful mass shipping of ALL pending RTrak-LP orders, the day after Christmas. We spent the better part of Christmas Eve and Day doing final assembly, printing invoices and packing so they would be ready to go out the very next day. We are committed to producing the very best product that we can, even if that means doing it in the "off" time.

I know I sound like a broken record when I say that I am sorry for the delays, but that is the best I can offer to this excellent, PATIENT group of people. We appreciate the loyalty, especially when we know there are others out there you could have purchased from. For that, we thank you!

We had delay upon delay with vendors, parts, holidays and numerous other hold-up. We can't cast all of the blame, we were at fault for several of those problems ourselves, but we believe we have learned good lessons from them. We have obtained new vendors and shops that we hope to continue to work with in the future. These are the people who made this happen at zero hour!

One last thing, the RTrak-LPs shipped with the standard user's CD, including the lastest user's manual. The manual was quickly done to have it available for shipping. There will be a revision done very soon and posted to the website with futher information.

Also, look for our end of year wrap-up newsletter, that will be posted to our website in early January.

Thank You!
Jason
RPC Electronics, LLC
www.rpc-electronics.com

358. Original R-Trak

Yahoo group: RTrak
Date: 2010-01-04 14:45:53 UTC
From: c0j
Topic: 358 Message: 358

Hi,

I've an original R-Trak that is now surplus to requirements. I'll offer it here before putting it on ebay. I'll take some pictures when I get home etc.

I was thinking $150 or thereabouts.

Cheers
de John
EI7IG

359. Stuck Rtrak

Yahoo group: RTrak
Date: 2010-02-24 10:35:20 UTC
From: c0j
Topic: 359 Message: 359

Hi,

I gave my Rtrak to a guy to check it out before purchasing it and now, when powered on, both the LED's come on, but it doesn't run or I'm unable to get the config app to 'detect' it.

Has anyone come across this before?

Regards
de John
EI7IG

360. One New RTrak-LP Available!

Yahoo group: RTrak
Date: 2010-04-12 21:47:58 UTC
From: Jason R
Topic: 360 Message: 360

As we prepare for Dayton, we are slimming down certain inventory and growing others. We have a single, BRAND NEW RTrak-LP unit, complete with cables available for sale. This unit was left over from the last large batch and was never sold.

Price is $235 + Shipping.

If interested, please email me at jason@... to arrange payment as these are not available through the website at this time.

Thanks!
Jason KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

361. Dayton Hamvention 2010 APRS Vendor Map

Yahoo group: RTrak
Date: 2010-05-11 15:07:08 UTC
From: Jason R
Topic: 361 Message: 361

For those attending Dayton 2010, I have made up a quick-reference map to all of the APRS-related vendors.

http://www.rpc-electronics.com/dayton-booth-map.jpg

I was surprised that Kantronics was not on the list this year.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

362. RPC Electronics, LLC Fourth of July Sale!

Yahoo group: RTrak
Date: 2010-07-03 16:12:23 UTC
From: Jason R
Topic: 362 Message: 362

For this weekend only (including Monday) we have some of our most popular products on sale!

Save up to 30% off our regular prices. Please visit our Fourth of July sale page at:

http://www.rpc-electronics.com/4ojsale.php

Be sure to buy from the links on the sale page, the normal product pages will have the everyday prices.

Thanks!
Jason KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

363. Used R-Trak for moving

Yahoo group: RTrak
Date: 2010-07-15 03:09:07 UTC
From: Noid
Topic: 363 Message: 363

Hey group this month I used an R-Trak placed in the trunk of the DeVille-the antenna (a 1/4 wave antenna) placed in the back seat-no ground plane.... so not a very great setup... the reason the family relocated from Tampa, FL to Tulsa, OK. A transport company put our cars on a truck (moving parking lot) and I wanted to monitor the movements. It worked marginally but considering the conditions of the antenna it worked pretty well. You can check out the movement via N9RLR.... the cars were picked up June 28th from Tampa and stayed there for a day or so and then it started to move.... it stayed in Mesquite, TX area for a few days and then moved to Tulsa. Anyway, nice unit again...when we get more settled here in Tulsa I will get the R-Trak going in the car in the near future. The call has been modified to NM5I... if anyone is close to Tulsa I would be willing to show the unit or anything... thanks all and keep up the great work! Any word on a 5 or 10 watt unit?

Have a great day.
Noid Wilson

364. Re: [RTrak] Used R-Trak for moving

Yahoo group: RTrak
Date: 2010-07-15 12:46:57 UTC
From: lists@ke4nyv.com
Topic: 363 Message: 364

Noid,

Thank you for the performance update! I am willing to bet with a decent ground plane, the results would have been 10 fold.

I am actively working on a 5-8V version, but I am still having an internal debate with myself about the merits of that much power and no receiver. I know there are other companies that have no problem with this, but I am fighting with it myself.

For those who have not seen the new RTrak-Mini, we have a picture posted on the website, but I need to add details. The most noted difference is the size of the package, as well as a front panel accessible frequency rotary switch. I also made some big improvements to the audio circuit design and was able to boost the TX audio levels. This made a large difference in the range that we seemed to get out of the original units.

Here is a link to the Mini's webpage:

http://www.rpc-electronics.com/rtrak-mini.php

We have a working unit to show and demo at Dayton, but due to the lack of transmitter modules available at the time, we were unable to sell them on-site.

Also, I was recently made aware of an EOL (End Of Life) schedule for several key components used in the current RTrak design. Including parts used in the new Mini, so I am being forced to re-design it. Having said that, I am considering the addition of the 8W PA in the new version, but I may be force to raise the price back up to or near the original $250 mark. However, I was able to add the PA and keep it at the same mini size. This is a true all-in-one, in a very small package.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- On Wed, 7/14/10, Noid <noid1037@...> wrote:

From: Noid <noid1037@...>
Subject: [RTrak] Used R-Trak for moving
To: RTrak@yahoogroups.com
Date: Wednesday, July 14, 2010, 11:09 PM

Hey group this month I used an R-Trak placed in the trunk of the DeVille-the antenna (a 1/4 wave antenna) placed in the back seat-no ground plane.... so not a very great setup... the reason the family relocated from Tampa, FL to Tulsa, OK. A transport company put our cars on a truck (moving parking lot) and I wanted to monitor the movements. It worked marginally but considering the conditions of the antenna it worked pretty well. You can check out the movement via N9RLR.... the cars were picked up June 28th from Tampa and stayed there for a day or so and then it started to move.... it stayed in Mesquite, TX area for a few days and then moved to Tulsa. Anyway, nice unit again...when we get more settled here in Tulsa I

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or 10 watt unit?

Have a great day.

Noid Wilson

365. RE: [RTrak] Used R-Trak for moving

Yahoo group: RTrak
Date: 2010-07-15 13:47:59 UTC
From: Noid Wilson-NM5I
Topic: 363 Message: 365
Attachments: 2 described; binary payloads are missing from this source WARC

Oh I agree about the performace of the antenna but the company moving the cars made many requests to not have any objects in the car. Only things that would have come from the factory, remove all other items… we stuffed some things in the trunk(s) hoping they would allow some of more needed items would be handy when we got to town. I thought if I put a cookie sheet in the back seat with the mag mount it might attract some attention…. J Whenever I travelled around the country I would throw the gear in the rental car and see how it performed which was always above average… When we go out on the lake here in Tulsa I will look to see if I can throw it on the boat and see how the unit integrates into system around here.

Thanks all !

Noid Wilson

Semper Fi

813-532-9708 Primary Cell

918-935-7700 D's Cell

noid1037@...

The family is in Tulsa, we will be in contact. Thanks.

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of lists@...
Sent: Thursday, July 15, 2010 7:47 AM
To: RTrak@yahoogroups.com
Subject: Re: [RTrak] Used R-Trak for moving

Noid,

Thank you for the performance update! I am willing to bet with a decent ground plane, the results would have been 10 fold.

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Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

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Subject: [RTrak] Used R-Trak for moving
To: RTrak@yahoogroups.com
Date: Wednesday, July 14, 2010, 11:09 PM

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Have a great day.
Noid Wilson

366. Byonics All-In-One

Yahoo group: RTrak
Date: 2010-10-22 00:11:41 UTC
From: Michael
Topic: 366 Message: 366

For five months I have sent emails to RPC inquiring about RTrak availability. For months I have not had a response. Byonics was at Pacificon last weekend proudly displaying their all-in-one system. Folks, including myself, snatched them up at $200. I've read many postings from frustrated members of this Group who have ordered their RTraks but haven't heard from RPC. The rest of you who are considering all-in-one systems might want to check out Byonic's site. I haven't set it up yet, but will provide a report as soon as I am up and running.

367. Re:Byonics All-In-One

Yahoo group: RTrak
Date: 2010-11-04 20:10:12 UTC
From: Craig Brammer
Topic: 366 Message: 367

I was also at Pacificon and dropped my $220 at Byonics. Had to leave some cash behind.. Mine is up and running, couldn't have been simplier. Plug into cigarette lighter and put mag mount on roof. Bingo, it works. I've already rewired it to be always on and hidden, just in case someone wants to borrow my wheels.

craig brammer AE6AF

368. Re: [RTrak] Byonics All-In-One

Yahoo group: RTrak
Date: 2010-11-07 16:37:22 UTC
From: Bob Burns W9RXR
Topic: 366 Message: 368

At 07:11 PM 10/21/2010, Michael wrote:
>Byonics was at Pacificon last weekend proudly displaying their
>all-in-one system.

I won't comment on RPC's issues. However, keep in mind that the Byonics Micro-Trak AIO is a transmit-only device. All it does is blindly transmit your position and it does not allow you to see what's going on in the APRS world around you. Also, as a transmit-only device, it can and will transmit on top of other APRS transmitters causing some interference and dropped packets.

Byonics has done a great job marketing the AIO, but I think purchasers of this device are missing the bigger picture. APRS is not just for vehicle tracking.

At 03:10 PM 11/4/2010, Craig Brammer wrote:
>Mine is up and running, couldn't have been simplier. Plug into
>cigarette lighter and put mag mount on roof. Bingo, it works. I've
>already rewired it to be always on and hidden, just in case someone
>wants to borrow my wheels.

Yes, and it appears that you are beaconing at a rate of once every three minutes even when your vehicle is not moving. That's redundant information which just adds to the congestion on the APRS network. I believe that your AIO supports SmartBeaconing which will adjust your beacon rate depending on your speed. Do you have SmartBeaconing enabled and properly configured? A beacon rate of once every ten minutes while stationary varying up to once every two minutes at 60 MPH is usually sufficient.

Bob...

369. Re: [RTrak] Byonics All-In-One

Yahoo group: RTrak
Date: 2010-11-07 16:53:04 UTC
From: Lynn W. Deffenbaugh (Mr)
Topic: 366 Message: 369

Watch for a new TT4 based AIO from Byonics. It receives, transmits, has a built in GPS, can digi, and, because it has a Bluetooth adapter connected to the computer COM port, you can connect to it from APRSISCE/32 or any other suitable software running on a bluetooth-capable host to provide a wireless IGate function. And the whole thing runs on 8 AA cells for a day or so.

Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32

PS. This was announced at at least one hamfest, and I've received permission from them to confirm the upcoming product.

Bob Burns W9RXR wrote:
>
> At 07:11 PM 10/21/2010, Michael wrote:
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> >all-in-one system.
>
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> blindly transmit your position and it does not allow you to see
> what's going on in the APRS world around you. Also, as a
> transmit-only device, it can and will transmit on top of other APRS
> transmitters causing some interference and dropped packets.
>
> Byonics has done a great job marketing the AIO, but I think
> purchasers of this device are missing the bigger picture. APRS is not
> just for vehicle tracking.
>
> At 03:10 PM 11/4/2010, Craig Brammer wrote:
> >Mine is up and running, couldn't have been simplier. Plug into
> >cigarette lighter and put mag mount on roof. Bingo, it works. I've
> >already rewired it to be always on and hidden, just in case someone
> >wants to borrow my wheels.
>
> Yes, and it appears that you are beaconing at a rate of once every
> three minutes even when your vehicle is not moving. That's redundant
> information which just adds to the congestion on the APRS network. I
> believe that your AIO supports SmartBeaconing which will adjust your
> beacon rate depending on your speed. Do you have SmartBeaconing
> enabled and properly configured? A beacon rate of once every ten
> minutes while stationary varying up to once every two minutes at 60
> MPH is usually sufficient.
>
> Bob...
>

>

370. Re: Byonics All-In-One

Yahoo group: RTrak
Date: 2010-11-07 18:04:58 UTC
From: Jason R
Topic: 366 Message: 370

Wow, maybe I need to change this forum's name to Byonics MicroTrak.

As much as I understand they are my competition and everyone is entitled to their opinion on whether our products are not as good, I would ask that the discussions in this forum stays on topic with the RTrak. If you feel the need to talk about how much you like the MicroTrak products, please do so on THEIR forum.

http://groups.yahoo.com/group/tinytrak

Thank You,

Jason KE4NYV
RPC Electronics, LLC
www.rpc-elctronics.com

--- In RTrak@yahoogroups.com, "Lynn W. Deffenbaugh (Mr)" <ldeffenb@...> wrote:
>
> Watch for a new TT4 based AIO from Byonics. It receives, transmits, has
> a built in GPS, can digi, and, because it has a Bluetooth adapter
> connected to the computer COM port, you can connect to it from
> APRSISCE/32 or any other suitable software running on a
> bluetooth-capable host to provide a wireless IGate function. And the
> whole thing runs on 8 AA cells for a day or so.
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> Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32
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> PS. This was announced at at least one hamfest, and I've received
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> > Byonics has done a great job marketing the AIO, but I think
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> > just for vehicle tracking.
> >

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> > >cigarette lighter and put mag mount on roof. Bingo, it works. I've
> > >already rewired it to be always on and hidden, just in case someone
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> > three minutes even when your vehicle is not moving. That's redundant
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> > believe that your AIO supports SmartBeaconing which will adjust your
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> > enabled and properly configured? A beacon rate of once every ten
> > minutes while stationary varying up to once every two minutes at 60
> > MPH is usually sufficient.
> >
> > Bob...
> >
> >
>

371. Hammond Case used for RTrak

Yahoo group: RTrak
Date: 2010-12-29 17:17:33 UTC
From: kc7hp
Topic: 371 Message: 371

I would like to mount my classic Rtrak on my BMW K75S motorcycle, with a trim 1/4W vertical using the aluminum travel rack as the ground plane. The efficiency of this arrangement appears low enough to not reach local digipeaters consistently. I am looking at the Communcations Concepts 335A <http://www.communication-concepts.com/335a.htm> amp to boost the signal to around four watts.

Ideally, I would put this in a matching Hammond case <http://www.hammondmfg.com/scpg.htm#Ext?> but there are so many models to sift through on their website. Which model Hammond case does the Rtrak use?

thx, hugh
KC7HP
Seattle

372. Re: Hammond Case used for RTrak

Yahoo group: RTrak
Date: 2010-12-29 17:30:33 UTC
From: Jason R
Topic: 371 Message: 372

Hugh,

Here is the case used on the Classic and LP RTrak:

http://www.mouser.com/Search/ProductDetail.aspx?R=1455J1201virtualkey54600000virtualkey546-1455J1201

Hope that helps! Please post some pictures of the project, once you have completed installing. I would love to see that and I am sure there are others with a similar project in mind.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "kc7hp" <kc7hp@...> wrote:
>
> I would like to mount my classic Rtrak on my BMW K75S motorcycle, with a trim 1/4W vertical using the aluminum travel rack as the ground plane. The efficiency of this arrangement appears low enough to not reach local digipeaters consistently. I am looking at the Communcations Concepts 335A <http://www.communication-concepts.com/335a.htm> amp to boost the signal to around four watts.
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> Ideally, I would put this in a matching Hammond case <http://www.hammondmfg.com/scpg.htm#Ext?> but there are so many models to sift through on their website. Which model Hammond case does the Rtrak use?
>
> thx, hugh
> KC7HP
> Seattle
>

373. OT1+ update for first gen units - did anything ever come of this?

Yahoo group: RTrak
Date: 2011-01-02 17:54:30 UTC
From: KC7HP
Topic: 373 Message: 373

I am cleaning up some ancient saved discussion into my personal notes for RTrak. I am wondering if anything came of this intended update. Maybe I missed the announcement?

thanks, hugh
KC7HP

2b. Re: new user update
Posted by: "Jason Rausch" lists@... ke4nyv
Date: Thu Jul 23, 2009 2:20 pm ((PDT))

Hugh,

Sorry that I did not get to this post sooner. I am working as fast as I can to get the new RTrak-LP ready to ship out and many people are waiting on me.

With the first generation RTrak, I noticed that the packets were significantly different sounding than the other on-air traffic. Although different, I did'nt notice much of a performance problem with it. I always felt that the OpenTracker and TinyTrak series of trackers had a bit of flatter, raspier sound to them, than say a Kantronics KPC-3. Not a big deal if they get the job done.

Having said that, after looking into it more, it appears the OT1+ module used in the first gen. RTrak is not matched to the MX146 transmitter perfectly. This has to do with the audio matching circuit on the OT1+ module itself. This is not Scott's fault, rather just a general design that he settled on to match a majority of the radios out there. Since the MX146 is a new radio and I was starting blind from the ground up, there was some room for deviance.

I am looking at modifying the OT1+ module with possible a different voltage divider ie. change some resistor values or possibly change out a transistor. Once I figure out a happy combination, I will offer any RTrak owner the chance to send their unit back to us for the modification. I will also offer up the mod online, but any mods done by a user cannot be warrantied by us. The mod will most likely require the removal and replacement of 0805 surface mount resistors and maybe a single SOT-23 size surface mount transistor.

More info on this when I have it ready.

Thanks!
Jason KE4NYV

374. Re: [RTrak] OT1+ update for first gen units - did anything ever come of this?

Yahoo group: RTrak
Date: 2011-01-02 18:54:40 UTC
From: Dan Dawson
Topic: 373 Message: 374

Posted by: "Jason Rausch" lists@... ke4nyv

> With the first generation RTrak, I noticed that the packets were significantly different sounding than the other on-air traffic.
>
> I am looking at modifying the OT1+ module with possible a different voltage divider ie. change some resistor values or possibly change out a transistor. Once I figure out a happy combination, I will offer any RTrak owner the chance to send their unit back to us for the modification.
>

I would love to hear about this too! I've got my RTrack that I bought in 2008 and it definitely sounds very different than other packets on air.

I can receive and decode it's packets just fine with my TH-D7 at close range, but none of my packets reach iGates or Digis even though my TH-D7 on EL power reaches them with no problem. I sent my RTrack back in once for repair, the TX Delay was adjusted and it still behaves exactly the same way as before, sounding funny and not getting picked up by other receivers.

It sounds like the problem described in this post might be exactly what's going on, so if there is a chance for a fix/repair I would really be interested. My RTrack sits in it's box in the closet, and I'd sure rather be using it in my plane and car!

--Dan Dawson, KI6ESH

375. RTrak-HAB (High Altitude Balloon) APRS Tracker: A First Look

Yahoo group: RTrak
Date: 2011-01-13 02:38:05 UTC
From: Jason R
Topic: 375 Message: 375

We have just completed a full round of bench testing of our new RTrak-HAB APRS tracker for high altitude balloon projects. Of course, this could be used in any high altitude project, but it has been designed with the balloon'er in mind.

For a complete list of features and pictures, please see our website:

http://www.rpc-electronics.com/rtrak-hab.php

We have a test unit on the way to the BEAR group in Canada for a real flight test. We plan to start taking orders in the next couple of weeks. The price has been set at $235 a unit.

Thanks!
Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

376. Re: RTrak-HAB (High Altitude Balloon) APRS Tracker: A First Look

Yahoo group: RTrak
Date: 2011-01-14 13:56:08 UTC
From: Jason R
Topic: 375 Message: 376

It was brought to my attention that I had left off the dimensions and weight of the RTrak-HAB. I have added these details to the website, but I would also like to post that here:

- Dimensions: (L X W) 80mm X 53mm or 3 1/8" X 2 1/16"
- Weight: 35g or 1.2oz

Sorry for the mistake!

Thanks!
Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Jason R" <lists@...> wrote:
>
> We have just completed a full round of bench testing of our new RTrak-HAB APRS tracker for high altitude balloon projects. Of course, this could be used in any high altitude project, but it has been designed with the balloon'er in mind.
>
> For a complete list of features and pictures, please see our website:
>
> http://www.rpc-electronics.com/rtrak-hab.php
>
> We have a test unit on the way to the BEAR group in Canada for a real flight test. We plan to start taking orders in the next couple of weeks. The price has been set at $235 a unit.
>
> Thanks!
> Jason Rausch - KE4NYV
> RPC Electronics, LLC
> www.rpc-electronics.com
>

377. RTrak-Lite Available and Shipping Now!

Yahoo group: RTrak
Date: 2011-03-03 23:58:06 UTC
From: Jason R
Topic: 377 Message: 377

A limited quantity of the RTrak-Lite is now available for ordering and immediate shipping! Please see our website for details and ordering links:

http://www.rpc-electronics.com/rtrak-lite.php

Thanks!
Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

378. Flag this message RTrak-HAB Now Available for Pre-Ordering!

Yahoo group: RTrak
Date: 2011-04-03 22:09:24 UTC
From: Jason R
Topic: 378 Message: 378

The RTrak-HAB is now available for pre-ordering!

We received the latest version PCB this week and was able to build up a test unit and verify operation. The tracker is working flawlessly! I big thanks goes to Barry VE6SBS for all of his hard work on testing the RTrak-HAB and helping to improve the performance!

The webpage has been updated with new pictures and a buying link has been added to the page:

The RTrak-HAB is now available for pre-order! http://www.rpc-electronics.com/rtrak-hab.php

Please direct any question to sales@...

Thanks!

Jason Rausch - Amateur Radio Callsign: KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

379. Re: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!

Yahoo group: RTrak
Date: 2011-04-04 01:17:45 UTC
From: Michael Iban
Topic: 378 Message: 379

When is the RTrak - All-In-One APRS Tracker going to be available?

From: Jason R <lists@...>
To: RTrak@yahoogroups.com
Sent: Sun, April 3, 2011 3:09:24 PM
Subject: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!

The RTrak-HAB is now available for pre-ordering!

We received the latest version PCB this week and was able to build up a test unit and verify operation. The tracker is working flawlessly! I big thanks goes to Barry VE6SBS for all of his hard work on testing the RTrak-HAB and helping to improve the performance!

The webpage has been updated with new pictures and a buying link has been added to the page:

The RTrak-HAB is now available for pre-order!
http://www.rpc-electronics.com/rtrak-hab.php

Please direct any question to sales@rpc-electronics.com

Thanks!

Jason Rausch - Amateur Radio Callsign: KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

380. Re: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!

Yahoo group: RTrak
Date: 2011-04-05 16:10:06 UTC
From: lists@ke4nyv.com
Topic: 378 Message: 380

Michael,

We are working on that concurrently to this project. The latest RTrak will be the RTrak-Mini. Same great tracker, but about 1/3 the size and a 5W transmitter. Should prove to be our best tracker yet! We will make announcements here when we are ready to start taking orders.

Thank you for your interest!

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- On Sun, 4/3/11, Michael Iban <miban@yahoo.com> wrote:

From: Michael Iban <miban@...>
Subject: Re: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!
To: RTrak@yahoogroups.com
Date: Sunday, April 3, 2011, 9:17 PM

When is the RTrak - All-In-One APRS Tracker going to be available?

From: Jason R <lists@...>
To: RTrak@yahoogroups.com
Sent: Sun, April 3, 2011 3:09:24 PM
Subject: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!

The RTrak-HAB is now available for pre-ordering!

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The webpage has been updated with new pictures and a buying link has been added to the page:

The RTrak-HAB is now available for pre-order! http://www.rpc-electronics.com/rtrak-hab.php

Please direct any question to sales@rpc-electronics.com

Thanks!

Jason Rausch - Amateur Radio Callsign: KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

381. Re: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!

Yahoo group: RTrak
Date: 2011-04-05 16:10:42 UTC
From: lists@ke4nyv.com
Topic: 378 Message: 381

Michael,

We are working on that concurrently to this project. The latest RTrak will be the RTrak-Mini. Same great tracker, but about 1/3 the size and a 5W transmitter. Should prove to be our best tracker yet! We will make announcements here when we are ready to start taking orders.

Thank you for your interest!

Jason Rausch - KE4NYV

RPC Electronics, LLC

www.rpc-electronics.com

--- On Sun, 4/3/11, Michael Iban <miban@...> wrote:

From: Michael Iban <miban@...>
Subject: Re: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!
To: RTrak@yahoogroups.com
Date: Sunday, April 3, 2011, 9:17 PM

When is the RTrak - All-In-One APRS Tracker going to be available?

From: Jason R <lists@...>
To: RTrak@yahoogroups.com
Sent: Sun, April 3, 2011 3:09:24 PM
Subject: [RTrak] Flag this message RTrak-HAB Now Available for Pre-Ordering!

The RTrak-HAB is now available for pre-ordering!

We received the latest version PCB this week and was able to build up a test unit and verify operation. The tracker is working flawlessly! I big thanks goes to Barry VE6SBS for all of his hard work on testing the RTrak-HAB and helping to improve the performance!

The webpage has been updated with new pictures and a buying link has been added to the page:

The RTrak-HAB is now available for pre-order! http://www.rpc-electronics.com/rtrak-hab.php

Please direct any question to sales@rpc-electronics.com

Thanks!

Jason Rausch - Amateur Radio Callsign: KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

382. RTrak-HAB (High Altitude Balloon) APRS Tracker

Yahoo group: RTrak
Date: 2011-04-07 20:14:21 UTC
From: Jason R
Topic: 382 Message: 382

The RTrak-HAB pre-sale is still going!

Get your order in now to be included in this first batch shipping!

http://www.rpc-electronics.com/rtrak-hab.php

383. Re: [RTrak] RTrak-HAB (High Altitude Balloon) APRS Tracker

Yahoo group: RTrak
Date: 2011-04-07 21:07:00 UTC
From: Andrew Rich
Topic: 382 Message: 383

Bought one

Questions

a.. Built on the OpenTracker 1+ APRS tracker platform
b.. On-board Trimble Compernicus GPS - Tracks ABOVE 60,000 feet!
c.. SRB MX146LV frequency agile 2M/VHF transmitter - 144-148MHz @ 350mW RF output power
d.. On-board temperature sensor with trimming resistor pads
e.. Five ADC channels for analog sensor readings
f.. Four general output control channels
g.. LDO voltage regulators for longer flight times on battery
h.. Reports supply voltage and all ADC values via APRS packet
i.. Automatic dual frequency operation during flight
j.. Transmits APRS packets at standard 1200 baud AFSK format
k.. Simple LED indicators lets you know condition/status of payload - can be disabled for power conservation
l.. Dimensions: (L X W) 80mm X 53mm or 3 1/8" X 2 1/16"
m.. Weight: 35g or 1.2oz
n.. Current Draw: 70mA (Idle) and 280mA (In Transmit)
o.. Power Supply: 9-15VDC

Package Includes
a.. RTrak-HAB APRS Tracker
b.. Embeddable GPS patch antenna
c.. Serial programming cable

Q1 - What sort of packets does it send ?
Q2 - Embedded GPS patch antenna ?
Q3 - GPS antenna powered of passive ?
Q4 - ADC - telemetry packet ?
Q5 - Output controls ??? how does this work ?

- Andrew VK4TEC -

----- Original Message -----
From: Jason R
To: RTrak@yahoogroups.com
Sent: Friday, April 08, 2011 6:14 AM
Subject: [RTrak] RTrak-HAB (High Altitude Balloon) APRS Tracker

The RTrak-HAB pre-sale is still going!

Get your order in now to be included in this first batch shipping!

http://www.rpc-electronics.com/rtrak-hab.php

384. Re: [RTrak] RTrak-HAB (High Altitude Balloon) APRS Tracker

Yahoo group: RTrak
Date: 2011-04-07 22:53:57 UTC
From: lists@ke4nyv.com
Topic: 382 Message: 384

> Q1 - What sort of packets does it send ?

APRS Position packets, with user selectable information embedded in the comment string.

> Q2 - Embedded GPS patch antenna
?

The same GPS antenna seen in this picture, on the website:

http://www.rpc-electronics.com/img/rtrak/hab/promos/rtrak-hab-v10-promo-010-medium.jpg

> Q3 - GPS antenna powered of passive
?

Active, +3.3V. The active voltage is supplied through the GPS antenna matching network, on-board.

> Q4 - ADC - telemetry packet ?

The raw ADC values will be reported through the position packets, in the comment string. This feature is being worked on and will be available shortly. If it is not available at the time of shipping, the unit can be user-flashed with the firmware, when it becomes available.

> Q5 - Output controls ??? how does this work ?

These are general purpose outputs that can be used for controlling various external devices. The most noted is controlling a digital camera for syncing the photos with position packets.

Thanks!

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

- Andrew VK4TEC -

----- Original Message -----
From:
Jason R
To: RTrak@yahoogroups.com
Sent: Friday, April 08, 2011 6:14
AM
Subject: [RTrak] RTrak-HAB (High Altitude
Balloon) APRS Tracker

The RTrak-HAB pre-sale is still going!

Get your order in now to be
included in this first batch shipping!

http://www.rpc-electronics.com/rtrak-hab.php

385. R Trak not putting info out....

Yahoo group: RTrak
Date: 2011-05-15 22:39:42 UTC
From: Noid
Topic: 385 Message: 385

I have had my R-Trak for several years (5/21/08) and had not issues with it past pinching the GPS coax in the infancy of the install.
Here is what I have now...

The unit has not updated my position since being in KC back on April 30, 2011. No noticeable changes have been done up to that point. Doing some basic troubleshooting...

I checked the config of the R-Trak. All parameters are normal. I went and check the low and high tones from the config menu and can hear them on my receiver which is 4 feet away to the tx side. The GPS light is blinking green. I do have a Bird wattmeter with a 5 watt slug but not getting any movement on the needle. Have there been a issue at some point the tx going out?
Opening the box shows no problems on the SRB-MX146 board and I re-seated it.
I dont have my hands on service equipment for a little while so I wondered if there are some down and dirty fixes?
Thanks.
Noid Wilson
NM5I ... NM5I-2(tracker id)
Tulsa, OK
918-550-3400

386. RTRAK-HAB Success!

Yahoo group: RTrak
Date: 2011-08-17 03:25:52 UTC
From: n0mpm
Topic: 386 Message: 386

I flew the new HAB version of RTRAK at GPSL on July 30, 2011. I am happy to report that Serial #0001 performed perfectly for the complete flight. Balloon burst was about 90,000 ft.

The unit was powered with 2 Energizer 9V lithium batteries in parallel. The batteries had plenty of life left after the 160 minute flight.

The BalloonSat weighed only 300 grams. The flight track is on APRS.FI with the call n0mpm-11.

Mike
PENS (Pella Explores Near Space)

387. Re: RTRAK-HAB Success!

Yahoo group: RTrak
Date: 2011-08-17 17:07:49 UTC
From: Jason R
Topic: 386 Message: 387

Mike,

That is great news! Congrats on the successful flight!

We appreciate your feedback on the HAB.

Jason - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "n0mpm" <morgamp52@...> wrote:
>
> I flew the new HAB version of RTRAK at GPSL on July 30, 2011. I am happy to report that Serial #0001 performed perfectly for the complete flight. Balloon burst was about 90,000 ft.
>
> The unit was powered with 2 Energizer 9V lithium batteries in parallel. The batteries had plenty of life left after the 160 minute flight.
>
> The BalloonSat weighed only 300 grams. The flight track is on APRS.FI with the call n0mpm-11.
>
> Mike
> PENS (Pella Explores Near Space)
>

388. Re: [RTrak] RTRAK-HAB Success!

Yahoo group: RTrak
Date: 2011-08-17 17:18:08 UTC
From: Joe
Topic: 386 Message: 388
Attachments: 1 described; binary payloads are missing from this source WARC

Very cool Dude!
Was that weight batteries and all?

Joe WB9SBD
Near Space Sciences

The Original Rolling Ball Clock
Idle Tyme
Idle-Tyme.com
http://www.idle-tyme.com

On 8/16/2011 10:25 PM, n0mpm wrote:
> I flew the new HAB version of RTRAK at GPSL on July 30, 2011. I am happy to report that Serial #0001 performed perfectly for the complete flight. Balloon burst was about 90,000 ft.
>
> The unit was powered with 2 Energizer 9V lithium batteries in parallel. The batteries had plenty of life left after the 160 minute flight.
>
> The BalloonSat weighed only 300 grams. The flight track is on APRS.FI with the call n0mpm-11.
>
> Mike
> PENS (Pella Explores Near Space)
>
>
>
> ------------------------------------
>
> Yahoo! Groups Links
>
>
>
>

389. RPC Electronics, LLC Black Friday Sale!

Yahoo group: RTrak
Date: 2011-11-24 19:29:52 UTC
From: Jason R
Topic: 389 Message: 389

We have decided to do a Black Friday Sale, starting today and going until midnight tomorrow (Friday). Many of our popular products are on sale and in stock!

http://rpc-electronics.com/xsales/2011blackfriday.php

Thank you for your continued business throughout 2011!
Jason - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

390. Config Program won't connect

Yahoo group: RTrak
Date: 2011-12-08 21:15:54 UTC
From: n0mpm
Topic: 390 Message: 390

I have two RTRAK-HAB's. One of them works great and have had a flawless flight. The second one is giving me fits. When I first received the modules, I was able to configure each one via the serial port. Today I tried to reconfigure with no luck. The RTRAK will not connect to my serial port. I know all is well on my end since I still can connect to my other RTRAK...

The RTRAK will capture GPS OK and will send out APRS strings just fine, but per an old config. I just cannot talk to it in order to change settings.

Any Ideas???

Mike N0MPM
Pella Explores Near Space
Hosting 2013 GPSL

391. Re: Config Program won't connect

Yahoo group: RTrak
Date: 2011-12-09 14:52:20 UTC
From: Barry
Topic: 390 Message: 391

Are both RTrak programming setups identical? In other words, are both units no longer installed in different capsules with different antennas attached? Or did you either replace the antenna with a SMA dummy load or remove the MX146 transmitter module, at least while trying to program the unit having a problem? I have occasionally seen RF from the transmitter affect the serial connection and, while the transmitter isn't active while programming a unit, it usually transmits 1 quick burst when the RTrak is powered on which can affect things and prevent further serial communication.

Barry VE6SBS
bear.sbszoo.com

--- In RTrak@yahoogroups.com, "n0mpm" <morgamp52@...> wrote:
>
> I have two RTRAK-HAB's. One of them works great and have had a flawless flight. The second one is giving me fits. When I first received the modules, I was able to configure each one via the serial port. Today I tried to reconfigure with no luck. The RTRAK will not connect to my serial port. I know all is well on my end since I still can connect to my other RTRAK...
>
> The RTRAK will capture GPS OK and will send out APRS strings just fine, but per an old config. I just cannot talk to it in order to change settings.
>
> Any Ideas???
>
> Mike N0MPM
> Pella Explores Near Space
> Hosting 2013 GPSL
>

392. Re: Config Program won't connect

Yahoo group: RTrak
Date: 2011-12-10 21:39:34 UTC
From: n0mpm
Topic: 390 Message: 392

I have tried a dozen things to assure rf isn't the problem...but I did remove the SRB MX146 module a few times between when I first configured the RTRAK and now when I cannot make the serial connection. Is that an issue??
mike
n0mpm

--- In RTrak@yahoogroups.com, "Barry" <bs@...> wrote:
>
>
>
>
>
>
>
> Are both RTrak programming setups identical? In other words, are both units no longer installed in different capsules with different antennas attached? Or did you either replace the antenna with a SMA dummy load or remove the MX146 transmitter module, at least while trying to program the unit having a problem? I have occasionally seen RF from the transmitter affect the serial connection and, while the transmitter isn't active while programming a unit, it usually transmits 1 quick burst when the RTrak is powered on which can affect things and prevent further serial communication.
>
> Barry VE6SBS
> bear.sbszoo.com
>
> --- In RTrak@yahoogroups.com, "n0mpm" <morgamp52@> wrote:
> >
> > I have two RTRAK-HAB's. One of them works great and have had a flawless flight. The second one is giving me fits. When I first received the modules, I was able to configure each one via the serial port. Today I tried to reconfigure with no luck. The RTRAK will not connect to my serial port. I know all is well on my end since I still can connect to my other RTRAK...
> >
> > The RTRAK will capture GPS OK and will send out APRS strings just fine, but per an old config. I just cannot talk to it in order to change settings.
> >
> > Any Ideas???
> >
> > Mike N0MPM
> > Pella Explores Near Space
> > Hosting 2013 GPSL
> >
>

393. RE: [RTrak] Re: Config Program won't connect

Yahoo group: RTrak
Date: 2011-12-11 05:17:52 UTC
From: Barry Sloan
Topic: 390 Message: 393

There's no problem removing the MX146 and operating the tracker without it and have done so countless times while helping Jason finalize his design (as long as you don't remove or insert it while the RTrak is powered of course, although even then I doubt the chances of damaging the MX146 are very great). As to the problem, there's no components involved with the serial data while programming that aren't involved with the GPS data during normal operation so I'm guessing the RTrak is fine.

But 0 & 5V are not valid RS-232 data levels which are plus and minus 3 to 25V and the only reason why many PC serial ports work with 0-5V data is that they don't have true RS-232 receivers. I've never yet had a PC with a serial port that would work with 0-5V data and in the past have always had to use a RS-232 transceiver chip to convert between RS-232 and 0-5V data levels, but now with USB being so popular use a USB chip to provide 0-5V data. Anyway, the only thing that I can think of at this point that may be the problem, is that the data levels from the failing RTrak are slightly different than from the other one and just enough that your serial port is having a problem with them. If you haven't tried using a different PC to program both units yet, I would give that a try (as a desperate last hope that a different serial port may work) and if you get the exact same results I would contact Jason and see if he'll let you exchange your failed unit for another one.

Barry - VE6SBS

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of n0mpm
Sent: Saturday, December 10, 2011 2:40 PM
To: RTrak@yahoogroups.com
Subject: [RTrak] Re: Config Program won't connect

I have tried a dozen things to assure rf isn't the problem...but I did remove the SRB MX146 module a few times between when I first configured the RTRAK and now when I cannot make the serial connection. Is that an issue??
mike
n0mpm

--- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com> , "Barry" <bs@...> wrote:
>
> Are both RTrak programming setups identical? In other words, are both units no longer installed in different capsules with different antennas attached? Or did you either replace the antenna with a SMA dummy load or remove the MX146 transmitter module, at least while trying to program the unit having a problem? I have occasionally seen RF from the transmitter affect the serial connection and, while the transmitter isn't active while programming a unit, it usually transmits 1 quick burst when the RTrak is

powered on which can affect things and prevent further serial communication.
>
> Barry VE6SBS
> bear.sbszoo.com
>
> --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com> , "n0mpm"
<morgamp52@> wrote:
> >
> > I have two RTRAK-HAB's. One of them works great and have had a flawless
flight. The second one is giving me fits. When I first received the modules,
I was able to configure each one via the serial port. Today I tried to
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> >
> > The RTRAK will capture GPS OK and will send out APRS strings just fine,
but per an old config. I just cannot talk to it in order to change settings.
> >
> > Any Ideas???
> >
> > Mike N0MPM
> > Pella Explores Near Space
> > Hosting 2013 GPSL

394. RTrak-HAB (High Altitude Balloon) Trackers Available!

Yahoo group: RTrak
Date: 2011-12-18 22:19:01 UTC
From: Jason R
Topic: 394 Message: 394

As we come towards the end of the year, we are working on end-of-year inventory. We have three brand new RTrak-HAB units in stock and ready to ship! These back ordered for some time due to the unavailability of a part. We have those parts and have the HAB available again for order:

http://www.rpc-electronics.com/rtrak-hab.php

The website states that this item is a "pre-order" item, but we do have three units in stock, ready to ship. If we run out, you will be given the option to still order, but will be placed on a back order list.

Thanks all and Merry Christmas!
Jason - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

395. Great product, Great service!

Yahoo group: RTrak
Date: 2011-12-23 15:57:33 UTC
From: n0mpm
Topic: 395 Message: 395

I would like to commend Jason and his team for resolving a RS 232 communication problem with my RTRK-HAB. In less tha a week my unit was back in my hands, good as new!

I can't wait to get it air bourne..

Mike, N0MPM

396. Re: [RTrak] Great product, Great service!

Yahoo group: RTrak
Date: 2011-12-23 16:54:28 UTC
From: lists@ke4nyv.com
Topic: 395 Message: 396

Mike,

Glad to hear it made it back OK! Thank you for the kind words!

Merry Christmas!

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- On Fri, 12/23/11, n0mpm <morgamp52@...> wrote:

From: n0mpm <morgamp52@...>
Subject: [RTrak] Great product, Great service!
To: RTrak@yahoogroups.com
Date: Friday, December 23, 2011, 10:57 AM

I would like to commend Jason and his team for resolving a RS 232 communication problem with my RTRK-HAB. In less tha a week my unit was back in my hands, good as new!

I can't wait to get it air bourne..

Mike, N0MPM

397. SRB MX14x Test Fixture Now Available

Yahoo group: RTrak
Date: 2012-03-05 02:15:50 UTC
From: Jason R
Topic: 397 Message: 397

RPC Electronics, LLC is proud to announce a new product for the APRS community! The MX14x Test Fixture is a full feature test bed for testing all versions of the SRB MX14x VHF (2m) Transmitter modules.

Please see the PDF manual for more details:

http://www.rpc-electronics.com/datasheets/rpc/srbmx14xtestfixture.pdf

The test fixture can be ordered directly from our website:

http://www.rpc-electronics.com/rf.php

Thanks!
Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

398. audio level for rtrak-HAB?

Yahoo group: RTrak
Date: 2012-03-21 23:59:39 UTC
From: Jason KG4WSV
Topic: 398 Message: 398

Is tere a recommended audio level for the -HAB unit?

The manual shows about 50%, the first unit I opened shows about 10% (2 steps from the left).

I figure this should be nailed down pretty well, since it's a known transmitter/circuit/etc. No trial and error as with picking a random radio to connect. :)

-Jason
kg4wsv

399. Re: [RTrak] audio level for rtrak-HAB?

Yahoo group: RTrak
Date: 2012-03-22 00:34:48 UTC
From: lists@ke4nyv.com
Topic: 398 Message: 399

Jason,
I really need to make a change to the manual. Let me explain...
When we do final checks, we set the deviation for right at 4 KHz. This seems to be about right in most applications. Where you found the slider, that was about the optimal position for this level, when checked with a benchtop RF service monitor.
The early RTrak units actually had a small pre-amp section between the OpenTracker section and the transmitter. This was required to boost the audio, since the OT's output was a bit too low for the MX146 transmitter. With that section added, the level required was about 50%.
Later on, we started to play with the voltage divider resistor values and found that we could tweak these enough to gain more output and remove the pre-amp section completely from the design. When we did this, the audio was MUCH MORE than the pre-amp section ever got us! We found that the level really had to be throttled back in the soft pot setting, in the config software. This was good, because it gave us plenty of play room with the levels.
Hope this explanation helps!
Jason Rausch - KE4NYVRPC Electronics, LLCwww.rpc-electronics.com

--- On Wed, 3/21/12, Jason KG4WSV <kg4wsv@...> wrote:

From: Jason KG4WSV <kg4wsv@gmail.com>
Subject: [RTrak] audio level for rtrak-HAB?
To: rtrak@yahoogroups.com
Date: Wednesday, March 21, 2012, 7:59 PM

Is tere a recommended audio level for the -HAB unit?

The manual shows about 50%, the first unit I opened shows about 10% (2

steps from the left).

I figure this should be nailed down pretty well, since it's a known

transmitter/circuit/etc. No trial and error as with picking a random

radio to connect. :)

-Jason

kg4wsv

400. Re: audio level for rtrak-HAB?

Yahoo group: RTrak
Date: 2012-03-22 00:38:24 UTC
From: Jason KG4WSV
Topic: 398 Message: 400

On Wed, Mar 21, 2012 at 6:59 PM, Jason KG4WSV <kg4wsv@...> wrote:
> Is tere a recommended audio level for the -HAB unit?
>
> The manual shows about 50%, the first unit I opened shows about 10% (2
> steps from the left).

OK, this should probably stay at the second tick, since anything
higher distorts.

Now my problem is that it won't transmit anywhere other than 144.39.
I've selected 3 other frequencies (both primary and secondary the
same) and it makes no difference.

help?

--
-Jason
kg4wsv

401. MX145H 2m Transmitter Modules Back in Stock at RPC Electronics, LLC

Yahoo group: RTrak
Date: 2012-04-19 23:22:27 UTC
From: Jason R
Topic: 401 Message: 401

We finally have MX145H modules back in stock and they are ready to ship out now.

http://rpc-electronics.com/rf.php

Thanks and please emails us with any questions!

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

402. freq change bug

Yahoo group: RTrak
Date: 2012-05-19 14:46:36 UTC
From: Jason KG4WSV
Topic: 402 Message: 402

Has the frequency change bug been fixed yet?

I've got 4 defective RTrak-HABs that I can't make transmit on 144.99 exclusively.

-Jason
kg4wsv

403. RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-30 19:13:45 UTC
From: airsix73
Topic: 403 Message: 403

Hello,
I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?

For best front-to-back ratio there are some really neat antenna designs (patch, bi-quad with reflector, yagi, 2 and 3 element quad) but they aren't very conducive to balloon work!

For those of you who've done this before, what are your recommendations? I'm sure I'm over-thinking it, so I'd love to hear what others have done with success.

Thanks!

Ben

404. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-30 19:53:55 UTC
From: Mark Conner
Topic: 403 Message: 404

350 mW will be fine for this distance with most antenna configurations. On one of our balloon flights, we hit a digi >250 miles away with 350 mW going into a dual-band whip with a minimal ground plane on the balloon.

We typically use vertical whips similar to those used on HTs, vertical dipoles, and feedline J-poles. The main thing with using vertical antennas is to not be directly under the balloon so your signal is not null-to-null in your respective antenna patterns. At 350 mW you may get a bit of signal loss due to fades when the payloads are moving around a lot after burst, but that usually lasts only a few minutes after burst - once the payloads stabilize, the fades become less of a problem.

A 2W transmitter will pretty much overcome any of the above issues. More complicated antennas on the balloon often get broken or snagged, so simpler is more reliable.

We have been wanting to experiment with a 2m QFH for the chase vehicle, but have not had time to construct one that's rugged enough to mount on a vehicle and take the wind stress and occasional bird strikes/tree branch strikes.

Where are you located? If there's a local balloon group that's active, you may want to get with them and pick their brains in person. See http://www.arhab.org for a fairly complete list of amateur radio balloon groups.

73 de Mark N9XTN
www.nstar.org

On Mon, Jul 30, 2012 at 2:13 PM, airsix73 <ben.messinger@...> wrote:

> Hello,
> I'm preparing my first balloon launch and trying to decide on antennas for
> the mobile ground station as well as the balloon. I'm a new ham, and
> nervous about keeping a strong enough signal over 25-30 miles with just
> 350mw transmit power and random orientation. Suggestions?
>
> For best front-to-back ratio there are some really neat antenna designs
> (patch, bi-quad with reflector, yagi, 2 and 3 element quad) but they aren't
> very conducive to balloon work!
>
> For those of you who've done this before, what are your recommendations?
> I'm sure I'm over-thinking it, so I'd love to hear what others have done
> with success.
>
> Thanks!
>

> Ben
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> ---
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> Yahoo! Groups Links
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405. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-30 20:00:39 UTC
From: Joe
Topic: 403 Message: 405
Attachments: 1 described; binary payloads are missing from this source WARC

Hi Ben,

Welcome to the world of High Altitude Ballooning.

What mode is this for? APRS? if so then of course you want the antenna on the balloon to be vertically polarized, so the polarity matches all the APRS ground towers.

If another mode you may need to tell us what it is.

As far as a vertically polarized antenna for the payload, we here at Near Space Sciences, have always had fantastic luck using a simple coathanger groundplane. except mounted up-side-down. Like this one but mount it up-side-down
http://www.movl.net/blog/2009/03/my-homemade-2m-14-ground-plane-antenna/

We have done them with the coax as seen in that image, and more often with the radiator sticking out the bottom of the payload, and the radials hot melt glued to the box itself.

Joe WB9SBD
Sig
The Original Rolling Ball Clock
Idle Tyme
Idle-Tyme.com
http://www.idle-tyme.com
On 7/30/2012 2:13 PM, airsix73 wrote:
> Hello,
> I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?
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>
> Thanks!
>
> Ben
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> Yahoo! Groups Links
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406. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-30 21:00:19 UTC
From: Jason KG4WSV
Topic: 403 Message: 406

By far the most reliable antenna we have used in terms of RF, mechanical reliability, longevity, etc, is a 1/2 wave dipole made from tape measure stock. The connections remain inside the box; the only thing protruding is tape measure.

-Jason
kg4wsv

407. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-31 14:28:28 UTC
From: Noid1037
Topic: 403 Message: 407

Ben,
Another antenna that works and can survive many flights is a 450 ohm ladderline 2M antenna. You can attach a BNC connector to the antenna and then have it attached to the payload. I have a jumper from the connector to the transmitter. This antenna can take a load of abuse and will land and not break off like a typical H-T antenna. Something to think about in the design of the payload.

Preferred variation
http://www.n9tax.com/Slim%20Jim%20Info.html

another method---
http://www.hamuniverse.com/2mladjpole.html

Good luck and keep us intune with the timeframe of a pending launch.
Noid Wilson
NM5I

--- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@...> wrote:
>
> Hello,
> I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?
>
> For best front-to-back ratio there are some really neat antenna designs (patch, bi-quad with reflector, yagi, 2 and 3 element quad) but they aren't very conducive to balloon work!
>
> For those of you who've done this before, what are your recommendations? I'm sure I'm over-thinking it, so I'd love to hear what others have done with success.
>
> Thanks!
>
> Ben
>

408. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-31 15:11:32 UTC
From: Jason KG4WSV
Topic: 403 Message: 408

Something to keep in mind is the temperature rating for the insulation on the exposed material, and the fact that the payload will experience various amounts of turbulence, especially at burst.

At one point we had standardized on roll-up J-poles (standard commercial grade RG58 with typical PVC insulation combined with 300 ohm twin lead). We experienced some failures because the PVC insulation became brittle (temperatures are usually -40C or lower). When this brittle PVC got hit too hard during turbulence it broke, allowing the conductors to short, at which point we lost the tracker signal.

My standard now is to use milspec teflon insulation for any cabling that is outside the payload.

We've also had antennas get ripped off completely, so that our radiator was about 1" of coax center conductor left unshielded. This is not terribly efficient on 2m. :| We managed to find that one by predicting the landing location, finding some high ground near the predicted location, and listening with a yagi and a D7. Even then we probably would not have found it if it wasn't hanging in a tree.

-Jason
kg4wsv

409. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-30 20:42:19 UTC
From: James Ewen
Topic: 403 Message: 409

There's an extremely robust antenna that will work very well for that 25-30 mile range listening for that pip-squeak 350 mW signal... It's called a 1/4 wave.

VHF communications is all about line of sight, not massive power. With the balloon at altitude, the most problem you will have with hearing the signal is if you drive under the balloon with a high gain omni-directional antenna.

Put a magmount 1/4 on the vehicle and if you start having issues hearing the signal while the balloon is nearing maximum altitude, stick the magmount on the side of your vehicle.

Now, when that thing ends up on the ground, and you need to find it, you'll need some gain if you're going to have to DF it.

With a good prediction, you should be able to be sitting waiting for your payload to drop at your feet, and you should have a position report from the payload within a couple hundred feet of the ground, leading right to the payload.

Do you have an upper air sounding station around you? Have a listen for their payloads at altitude.

On Mon, Jul 30, 2012 at 1:13 PM, airsix73 <ben.messinger@...> wrote:
> Hello,
> I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?
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> For those of you who've done this before, what are your recommendations? I'm sure I'm over-thinking it, so I'd love to hear what others have done with success.
>
> Thanks!
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> Ben
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> Yahoo! Groups Links

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James
VE6SRV

410. RE: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-30 20:41:00 UTC
From: Bruce Coates
Topic: 403 Message: 410

Hi Ben

Most people use either a simple upside down 1/4 ground plane, vertical dipole or wire J-pole on the balloon. All these give good radiation patterns sideways with varying degrees of a null directly below the balloon. I use a single vertical radiator with a single counterpoise which gives an odd shaped radiation pattern that doesn't have a null directly below it. For a mobile tracker my favorite is a simple 1/4 mag mount. A 5/8 will help receiving the signal once the payload is near or on the ground, but is has a strong null directly above it.

The worst situation for reception will be when you are directly below the payload. The null on the payload and the null on your car's antenna will tend to add together and you'll notice a significant reduction is signal strength. I've heard this referred to as the "cone of silence". Occasionally it's enough to make it difficult to receive the payload. One option are to stay out of this area below the balloon. A simpler solution is to slap your mag mount on the side of the car. Really! I did this on one flight and my weak signal from directly above returned back to full scale.

In short, you don't need any special antennas. Our balloon in mid Saskatchewan last weekend, running 300mW was heard in Manitoba, Alberta, Montana and North Dakota, all with no special antennas. I was also able to copy it about 80% of the time with my TH-D72 with a rubber duck at a range of about 40 miles.

In short, keep it simple, try to keep 10 miles or more away from directly below the balloon and get creative if you need to like moving your receive antenna around. You may also want to take an extra hand held along so you can play with different antennas.

73, Bruce - VE5BNC
SABRE - http://ve5aa.dyndns.org/balloon

-----Original Message-----
From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of airsix73
Sent: July-30-12 1:14 PM
To: RTrak@yahoogroups.com
Subject: [RTrak] RTrak-HAB antenna thoughts

Hello,
I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?

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For those of you who've done this before, what are your recommendations? I'm sure I'm over-thinking it, so I'd love to hear what others have done with success.

Thanks!

Ben

Yahoo! Groups Links

411. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-30 21:44:08 UTC
From: Leigh
Topic: 403 Message: 411

--- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@...> wrote:
Hi Ben

Most people use either a simple upside down 1/4 ground plane, vertical dipole or wire J-pole on the balloon. All these give good radiation patterns sideways with varying degrees of a null directly below the balloon. I use a single vertical radiator with a single counterpoise, both made from steel guitar strings, which gives an odd shaped radiation pattern that doesn't have a null directly below it. For a mobile tracker my favorite is a simple 1/4 mag mount. A 5/8 will help receiving the signal once the payload is near or on the ground, but is has a strong null directly above it.

The worst situation for reception will be when you are directly below the payload. The null on the payload and the null on your car's antenna will tend to add together and you'll notice a significant reduction is signal strength. I've heard this referred to as the "cone of silence". Occasionally it's enough to make it difficult to receive the payload. One option are to stay out of this area below the balloon. A simpler solution is to slap your mag mount on the side of the car. Really! I did this on one flight and my weak signal from directly above returned back to full scale.

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73, Bruce - VE5BNC
SABRE - http://ve5aa.dyndns.org/balloon

412. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-07-31 01:15:52 UTC
From: Leigh
Topic: 403 Message: 412

Hi Ben

Most people use either a simple upside down 1/4 ground plane, vertical dipole or wire J-pole on the balloon. All these give good radiation patterns sideways with varying degrees of a null directly below the balloon. I use a single vertical radiator with a single counterpoise which gives an odd shaped radiation pattern that doesn't have a null directly below it. For a mobile tracker my favorite is a simple 1/4 mag mount. A 5/8 will help receiving the signal once the payload is near or on the ground, but is has a strong null directly above it.

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In short, keep it simple, try to keep 10 miles or more away from directly below the balloon and get creative if you need to like moving your receive antenna around. You may also want to take an extra hand held along so you can play with different antennas.

73, Bruce - VE5BNC
SABRE - http://ve5aa.dyndns.org/balloon

--- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@...> wrote:
>
> Hello,
> I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?
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>
> For those of you who've done this before, what are your recommendations? I'm sure I'm over-thinking it, so I'd love to hear what others have done with success.
>
> Thanks!
>

> Ben
>

413. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-08-01 19:14:28 UTC
From: airsix73
Topic: 403 Message: 413

Thank you all for your help! This is great info.

Jason,
Which teflon coax do you use? Can you recommend a good supplier? Thanks.

414. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-08-02 19:16:12 UTC
From: airsix73
Topic: 403 Message: 414

Thank you all for your advice! I didn't expect so many responses, all of which have been great.

Jason, what teflon coax are you using? Can you recommend a supplier? Thanks

Ben

(Hope this message posts. Been having some trouble. Sorry if duplicate.)

--- In RTrak@yahoogroups.com, Jason KG4WSV <kg4wsv@...> wrote:
>
> Something to keep in mind is the temperature rating for the insulation
> on the exposed material, and the fact that the payload will experience
> various amounts of turbulence, especially at burst.
>
> At one point we had standardized on roll-up J-poles (standard
> commercial grade RG58 with typical PVC insulation combined with 300
> ohm twin lead). We experienced some failures because the PVC
> insulation became brittle (temperatures are usually -40C or lower).
> When this brittle PVC got hit too hard during turbulence it broke,
> allowing the conductors to short, at which point we lost the tracker
> signal.
>
> My standard now is to use milspec teflon insulation for any cabling
> that is outside the payload.
>
> We've also had antennas get ripped off completely, so that our
> radiator was about 1" of coax center conductor left unshielded. This
> is not terribly efficient on 2m. :| We managed to find that one by
> predicting the landing location, finding some high ground near the
> predicted location, and listening with a yagi and a D7. Even then we
> probably would not have found it if it wasn't hanging in a tree.
>
> -Jason
> kg4wsv
>

415. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-08-03 00:21:02 UTC
From: Jason KG4WSV
Topic: 403 Message: 415

On Thu, Aug 2, 2012 at 2:16 PM, airsix73 <ben.messinger@...> wrote:
> Jason, what teflon coax are you using?

Some we recovered from wiring harnesses (from a blackhawk maybe?) that were donated to the university. I think it's RG142, which is sort of a double braid teflon version of RG58.

When we use the tape measure antenna, no coax is outside so I use standard (PVC) RG174 with an SMA connector, which is easier to route inside the box and connects directly to the SMA connector on the Alino DJ-C7, which is our standard tracker radio.

On the RTrak-HABs which will be our backup tracker if the frequency switching bug ever gets fixed, we'll probably just use a Comet SMA-24.

-Jason
kg4wsv

416. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-05 21:24:56 UTC
From: airsix73
Topic: 403 Message: 416

Just wanted to follow up and let everyone know we pulled off a successful 1st balloon project. The RTrak-HAB performed well. In fact it survived a very hard landing. I didn't mess around with profile or frequency switching just to be safe.

One thing I'm scratching my head over is that although I configured it for "WIDE2,1" it was not picked up by a single repeater. I used APRSISCE running on my laptop with a Verizon mobile wifi hotspot to act as an iGate from my chase-vehicle. That worked great, but I'm puzzled that it was ignored by the rest of the APRS community. There are plenty of repeaters around that certainly heard it.

I ended up going with a vertical dipole which worked very well until roughly 100,000ft at which point we couldn't get out from under the doughnut and started missing packets. We were roughly 12 miles off to the side, but that was no longer enough distance. Our highest-altitude packet came in at 124k and change. Based on our rate of climb at that point and the time-stamp on the video we hit a bit over 126,000ft roughly 3 minutes later.

Here is a bit of video from the last 1:30 before burst. Thanks for the help with antenna design!

http://www.youtube.com/watch?v=GRqrnh_ySNs&feature=g-upl

-Ben

--- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@...> wrote:
>
> Hello,
> I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?
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> For best front-to-back ratio there are some really neat antenna designs (patch, bi-quad with reflector, yagi, 2 and 3 element quad) but they aren't very conducive to balloon work!
>
> For those of you who've done this before, what are your recommendations? I'm sure I'm over-thinking it, so I'd love to hear what others have done with success.
>
> Thanks!
>
> Ben
>

417. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 13:26:05 UTC
From: Jason R
Topic: 403 Message: 417

Ben,

Glad to hear you have a successful first flight!

> One thing I'm scratching my head over is that although I configured
> it for "WIDE2,1" it was not picked up by a single repeater.

Was this a typo or did you actually put in WIDE2,1?

If so, that is the problem, the path should have been WIDE2-1. The comma would have made the path look like alias WIDE2 and then alias 1 to everything on the network. The dash would have made the alias WIDE2-1 and that would have given you a single hop.

Keep in mind, with altitude control, you can have the path be something like WIDE2-1 below a certain threshold and then go to no path above that threshold. This is a very popular option with balloons since once they achieve a certain altitude, there is typically no need for a path and it just results in network congestion.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@...> wrote:
>
> Just wanted to follow up and let everyone know we pulled off a successful 1st balloon project. The RTrak-HAB performed well. In fact it survived a very hard landing. I didn't mess around with profile or frequency switching just to be safe.
>
> One thing I'm scratching my head over is that although I configured it for "WIDE2,1" it was not picked up by a single repeater. I used APRSISCE running on my laptop with a Verizon mobile wifi hotspot to act as an iGate from my chase-vehicle. That worked great, but I'm puzzled that it was ignored by the rest of the APRS community. There are plenty of repeaters around that certainly heard it.
>
> I ended up going with a vertical dipole which worked very well until roughly 100,000ft at which point we couldn't get out from under the doughnut and started missing packets. We were roughly 12 miles off to the side, but that was no longer enough distance. Our highest-altitude packet came in at 124k and change. Based on our rate of climb at that point and the time-stamp on the video we hit a bit over 126,000ft roughly 3 minutes later.
>
> Here is a bit of video from the last 1:30 before burst. Thanks for the help with antenna design!
>
> http://www.youtube.com/watch?v=GRqrnh_ySNs&feature=g-upl
>
> -Ben
>

>
> --- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@> wrote:
> >
> > Hello,
> > I'm preparing my first balloon launch and trying to decide on antennas for the mobile ground station as well as the balloon. I'm a new ham, and nervous about keeping a strong enough signal over 25-30 miles with just 350mw transmit power and random orientation. Suggestions?
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> > For best front-to-back ratio there are some really neat antenna designs (patch, bi-quad with reflector, yagi, 2 and 3 element quad) but they aren't very conducive to balloon work!
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> > For those of you who've done this before, what are your recommendations? I'm sure I'm over-thinking it, so I'd love to hear what others have done with success.
> >
> > Thanks!
> >
> > Ben
> >
>

418. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 14:52:57 UTC
From: James Ewen
Topic: 403 Message: 418

As Jason has mentioned, WIDE2-1 would be a valid path request. APRS packets will not activate repeaters, but rather digipeaters.

Digipeaters listen on 144.390 capture packets and forward those packets back out on the same frequency if a valid path alias is seen by the digipeater.

As for being in the doughnut hole, the simple solution is to not get into the hole. If you find yourself in the hole, simply taking you antenna off the roof and moving it to the side of your vehicle will work. Obviously this is easiest with a magmount where you can stick it to the door or other panel. A fold over mount can be folded to aim the pattern upwards. You can also just bend an antenna over to get the pattern skyward.

On 9/6/12, Jason R <lists@...> wrote:
> Ben,
>
> Glad to hear you have a successful first flight!
>
>> One thing I'm scratching my head over is that although I configured
>> it for "WIDE2,1" it was not picked up by a single repeater.
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> Was this a typo or did you actually put in WIDE2,1?
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> If so, that is the problem, the path should have been WIDE2-1. The comma
> would have made the path look like alias WIDE2 and then alias 1 to
> everything on the network. The dash would have made the alias WIDE2-1 and
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> Keep in mind, with altitude control, you can have the path be something like
> WIDE2-1 below a certain threshold and then go to no path above that
> threshold. This is a very popular option with balloons since once they
> achieve a certain altitude, there is typically no need for a path and it
> just results in network congestion.
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> Jason Rausch - KE4NYV
> RPC Electronics, LLC
> www.rpc-electronics.com
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> --- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@...> wrote:
>>
>> Just wanted to follow up and let everyone know we pulled off a successful
>> 1st balloon project. The RTrak-HAB performed well. In fact it survived a
>> very hard landing. I didn't mess around with profile or frequency

>> switching just to be safe.
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>> from my chase-vehicle. That worked great, but I'm puzzled that it was
>> ignored by the rest of the APRS community. There are plenty of repeaters
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>> I ended up going with a vertical dipole which worked very well until
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>> doughnut and started missing packets. We were roughly 12 miles off to the
>> side, but that was no longer enough distance. Our highest-altitude packet
>> came in at 124k and change. Based on our rate of climb at that point and
>> the time-stamp on the video we hit a bit over 126,000ft roughly 3 minutes
>> later.
>>
>> Here is a bit of video from the last 1:30 before burst. Thanks for the
>> help with antenna design!
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>> http://www.youtube.com/watch?v=GRqrnh_ySNs&feature=g-upl
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>> > 350mw transmit power and random orientation. Suggestions?
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>> > For best front-to-back ratio there are some really neat antenna designs
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>> > For those of you who've done this before, what are your recommendations?
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>> > Thanks!
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>> > Ben
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> Yahoo! Groups Links
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Sent from my mobile device

James
VE6SRV

419. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 16:11:35 UTC
From: airsix73
Topic: 403 Message: 419

Thanks James & Jason,
Here is a cut and paste of a packet (pulled from aprs.fi)

2012-09-01 18:32:09 UTC:
KC7PUC-1>APOTC1,WIDE2-1,qAR,KF7VZR-1:!4632.56N/11931.92WO322/019/A=124524 07.4 13C M&M Space Prog.

So "WIDE2-1" should have been a good 1-hop path, right? Thank you for correcting me on that as well as the repeater/digipeater slip up. I did notice right from the get-go aprs.fi was flagging it with a path warning due to the path/altitude combination (even at very low altitude). Are digipeaters filtering out packets they think have a bad path?

Regarding the doughnut hole: Tried moving the antenna to the side of the vehicle to no effect and it was a van with about a 4ft square door (good ground plane). Perhaps we just never got the vehicle oriented properly in relation to the balloon.

Ben

--- In RTrak@yahoogroups.com, James Ewen <ve6srv@...> wrote:
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> As Jason has mentioned, WIDE2-1 would be a valid path request. APRS
> packets will not activate repeaters, but rather digipeaters.
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> Digipeaters listen on 144.390 capture packets and forward those
> packets back out on the same frequency if a valid path alias is seen
> by the digipeater.
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> As for being in the doughnut hole, the simple solution is to not get
> into the hole. If you find yourself in the hole, simply taking you
> antenna off the roof and moving it to the side of your vehicle will
> work. Obviously this is easiest with a magmount where you can stick it
> to the door or other panel. A fold over mount can be folded to aim the
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> > If so, that is the problem, the path should have been WIDE2-1. The comma
> > would have made the path look like alias WIDE2 and then alias 1 to
> > everything on the network. The dash would have made the alias WIDE2-1 and
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> > Keep in mind, with altitude control, you can have the path be something like
> > WIDE2-1 below a certain threshold and then go to no path above that
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> >> Just wanted to follow up and let everyone know we pulled off a successful
> >> 1st balloon project. The RTrak-HAB performed well. In fact it survived a
> >> very hard landing. I didn't mess around with profile or frequency
> >> switching just to be safe.
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> >> One thing I'm scratching my head over is that although I configured it for
> >> "WIDE2,1" it was not picked up by a single repeater. I used APRSISCE
> >> running on my laptop with a Verizon mobile wifi hotspot to act as an iGate
> >> from my chase-vehicle. That worked great, but I'm puzzled that it was
> >> ignored by the rest of the APRS community. There are plenty of repeaters
> >> around that certainly heard it.
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> >> I ended up going with a vertical dipole which worked very well until
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> >> doughnut and started missing packets. We were roughly 12 miles off to the
> >> side, but that was no longer enough distance. Our highest-altitude packet
> >> came in at 124k and change. Based on our rate of climb at that point and
> >> the time-stamp on the video we hit a bit over 126,000ft roughly 3 minutes
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> >> Here is a bit of video from the last 1:30 before burst. Thanks for the
> >> help with antenna design!
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> >> > For best front-to-back ratio there are some really neat antenna designs
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> >> > For those of you who've done this before, what are your recommendations?
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> > Yahoo! Groups Links
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> --
> Sent from my mobile device
>
> James
> VE6SRV
>

420. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 16:50:57 UTC
From: Tom Hayward
Topic: 403 Message: 420

On Thu, Sep 6, 2012 at 10:11 AM, airsix73 <ben.messinger@...> wrote:
>
> Thanks James & Jason,
> Here is a cut and paste of a packet (pulled from aprs.fi)
>
> 2012-09-01 18:32:09 UTC:
> KC7PUC-1>APOTC1,WIDE2-1,qAR,KF7VZR-1:!4632.56N/11931.92WO322/019/A=124524
> 07.4 13C M&M Space Prog.
>
> So "WIDE2-1" should have been a good 1-hop path, right? Thank you for
> correcting me on that as well as the repeater/digipeater slip up. I did
> notice right from the get-go aprs.fi was flagging it with a path warning due
> to the path/altitude combination (even at very low altitude). Are
> digipeaters filtering out packets they think have a bad path?

The fanciest digipeater filtering I'm aware of is hop-limiting, where
the digipeater will ignore hope requests with numbers greater than 3
(or whatever the owner has configured). Your path of WIDE2-1 would not
be caught by that. I'm not aware of any digipeater software that can
read and act on an altitude limit.

My question is, why are you concerned about digipeaters if you found
that you could receive it direct the whole time? This tells me that
the best path to use next time is no path.

Tom KD7LXL

421. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 16:54:07 UTC
From: James Ewen
Topic: 403 Message: 421

So where's your proof that no digipeaters handled the packet? Did you have stations located near every digipeater for 500 miles around? That would be the only definitive way of knowing that no digipeater handled the packet.

Let me guess, you're basing this opinion on data gleaned from the APRS-IS stream where only a small portion of the data is available.

Your payload was being heard direct by dozens of i-gates all racing to get the packet to the internet first. After that the digipeaters got a chance to act on the packet, and then finally i-gates hearing a digipeated packet would get gated. There's little chance that a digipeated packet can get to the internet before one heard direct.

The APRS-IS stream is not a reliable tool to use for network monitoring.

On 9/6/12, airsix73 <ben.messinger@...> wrote:
> Thanks James & Jason,
> Here is a cut and paste of a packet (pulled from aprs.fi)
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> notice right from the get-go aprs.fi was flagging it with a path warning due
> to the path/altitude combination (even at very low altitude). Are
> digipeaters filtering out packets they think have a bad path?
>
> Regarding the doughnut hole: Tried moving the antenna to the side of the
> vehicle to no effect and it was a van with about a 4ft square door (good
> ground plane). Perhaps we just never got the vehicle oriented properly in
> relation to the balloon.
>
> Ben
>
> --- In RTrak@yahoogroups.com, James Ewen <ve6srv@...> wrote:
>>
>> As Jason has mentioned, WIDE2-1 would be a valid path request. APRS
>> packets will not activate repeaters, but rather digipeaters.
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>> Digipeaters listen on 144.390 capture packets and forward those
>> packets back out on the same frequency if a valid path alias is seen
>> by the digipeater.
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>> As for being in the doughnut hole, the simple solution is to not get
>> into the hole. If you find yourself in the hole, simply taking you
>> antenna off the roof and moving it to the side of your vehicle will
>> work. Obviously this is easiest with a magmount where you can stick it
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>> > Keep in mind, with altitude control, you can have the path be something
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James
VE6SRV
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422. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 17:00:58 UTC
From: Mark Conner
Topic: 403 Message: 422

If you look at the raw data:
http://aprs.fi/?c=raw&call=KC7PUC-1&limit=300&view=normal

not only were there no digipeaters shown as digipeating the balloon, but only one I-gate received it. A "duh" question for me - was the balloon on 144.39 or some other frequency?

I would be hard-pressed to say that the KF7VZR-1 I-gate would have won the race to APRS-IS for every packet unless it was the only one listening. I have never seen that on my flights except for those payloads on a non-144.39 freq.

73 de Mark N9XTN

On Thu, Sep 6, 2012 at 11:54 AM, James Ewen <ve6srv@...> wrote:

> So where's your proof that no digipeaters handled the packet? Did you
> have stations located near every digipeater for 500 miles around? That
> would be the only definitive way of knowing that no digipeater handled
> the packet.
>
> Let me guess, you're basing this opinion on data gleaned from the
> APRS-IS stream where only a small portion of the data is available.
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> get the packet to the internet first. After that the digipeaters got a
> chance to act on the packet, and then finally i-gates hearing a
> digipeated packet would get gated. There's little chance that a
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423. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 17:05:31 UTC
From: Tom Hayward
Topic: 403 Message: 423

On Thu, Sep 6, 2012 at 11:00 AM, Mark Conner <n9xtn@...> wrote:
>
> If you look at the raw data:
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> http://aprs.fi/?c=raw&call=KC7PUC-1&limit=300&view=normal
>
> not only were there no digipeaters shown as digipeating the balloon, but
> only one I-gate received it. A "duh" question for me - was the balloon on
> 144.39 or some other frequency?

That's raw APRS-IS data, not raw RF data. Digipeaters operate on RF,
so that data doesn't tell you anything about what digipeaters may or
may not have responded to the balloon's packets.

Tom KD7LXL

424. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 17:20:55 UTC
From: Mark Conner
Topic: 403 Message: 424

I understand that fully. Based on my previous flight experience (~50) it would be extremely unusual to have an entire flight that did not show digipeated packets in the APRS-IS packet history if it were operated on 144.39 with a WIDE2-1 path.

- Mark

On Thu, Sep 6, 2012 at 12:05 PM, Tom Hayward <tom@...> wrote:

> On Thu, Sep 6, 2012 at 11:00 AM, Mark Conner <n9xtn@...> wrote:
> >
> > If you look at the raw data:
> >
> > http://aprs.fi/?c=raw&call=KC7PUC-1&limit=300&view=normal
> >
> > not only were there no digipeaters shown as digipeating the balloon, but
> > only one I-gate received it. A "duh" question for me - was the balloon
> on
> > 144.39 or some other frequency?
>
> That's raw APRS-IS data, not raw RF data. Digipeaters operate on RF,
> so that data doesn't tell you anything about what digipeaters may or
> may not have responded to the balloon's packets.
>
> Tom KD7LXL
>
>
>

425. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 17:25:33 UTC
From: airsix73
Topic: 403 Message: 425

I apologize if I come off as ignorant. I've been a ham for about 60 days or so and barely know which way is up at this point.

Between 100,000ft and 123,000ft I had a 36 minute black-out. That was a long nail-biting half-hour. Meanwhile I was having no trouble picking up other digipeated APRS traffic from all around the region. During that 1/2 hour in which I could not receive my tracker I would have expected it to be picked up by one of the digipeaters within range of my ground station. Even if it was picked up by a digipeater beyond my range to receive by RF I would expect that digipeater would have got it to someone's igate.

We don't have heavy APRS traffic in Eastern Washington, but we do seem to have a decent digipeater and igate coverage.

--- In RTrak@yahoogroups.com, James Ewen <ve6srv@...> wrote:
>
> So where's your proof that no digipeaters handled the packet? Did you
> have stations located near every digipeater for 500 miles around? That
> would be the only definitive way of knowing that no digipeater handled
> the packet.
>
> Let me guess, you're basing this opinion on data gleaned from the
> APRS-IS stream where only a small portion of the data is available.
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> Your payload was being heard direct by dozens of i-gates all racing to
> get the packet to the internet first. After that the digipeaters got a
> chance to act on the packet, and then finally i-gates hearing a
> digipeated packet would get gated. There's little chance that a
> digipeated packet can get to the internet before one heard direct.
>
> The APRS-IS stream is not a reliable tool to use for network monitoring.
>
>
>
> On 9/6/12, airsix73 <ben.messinger@...> wrote:
> > Thanks James & Jason,
> > Here is a cut and paste of a packet (pulled from aprs.fi)
> >
> > 2012-09-01 18:32:09 UTC:
> > KC7PUC-1>APOTC1,WIDE2-1,qAR,KF7VZR-1:!4632.56N/11931.92WO322/019/A=124524
> > 07.4 13C M&M Space Prog.
> >
> > So "WIDE2-1" should have been a good 1-hop path, right? Thank you for
> > correcting me on that as well as the repeater/digipeater slip up. I did
> > notice right from the get-go aprs.fi was flagging it with a path warning due
> > to the path/altitude combination (even at very low altitude). Are
> > digipeaters filtering out packets they think have a bad path?

> >
> > Regarding the doughnut hole: Tried moving the antenna to the side of the
> > vehicle to no effect and it was a van with about a 4ft square door (good
> > ground plane). Perhaps we just never got the vehicle oriented properly in
> > relation to the balloon.
> >
> > Ben
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> > --- In RTrak@yahoogroups.com, James Ewen <ve6srv@> wrote:
> >>
> >> As Jason has mentioned, WIDE2-1 would be a valid path request. APRS
> >> packets will not activate repeaters, but rather digipeaters.
> >>
> >> Digipeaters listen on 144.390 capture packets and forward those
> >> packets back out on the same frequency if a valid path alias is seen
> >> by the digipeater.
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> >> As for being in the doughnut hole, the simple solution is to not get
> >> into the hole. If you find yourself in the hole, simply taking you
> >> antenna off the roof and moving it to the side of your vehicle will
> >> work. Obviously this is easiest with a magmount where you can stick it
> >> to the door or other panel. A fold over mount can be folded to aim the
> >> pattern upwards. You can also just bend an antenna over to get the
> >> pattern skyward.
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> >> On 9/6/12, Jason R <lists@> wrote:
> >> > Ben,
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> >> > Glad to hear you have a successful first flight!
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> >> >> One thing I'm scratching my head over is that although I configured
> >> >> it for "WIDE2,1" it was not picked up by a single repeater.
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> >> > Was this a typo or did you actually put in WIDE2,1?
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> >> > If so, that is the problem, the path should have been WIDE2-1. The
> >> > comma
> >> > would have made the path look like alias WIDE2 and then alias 1 to
> >> > everything on the network. The dash would have made the alias WIDE2-1
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> >> > that would have given you a single hop.
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> >> > Keep in mind, with altitude control, you can have the path be something
> >> > like
> >> > WIDE2-1 below a certain threshold and then go to no path above that
> >> > threshold. This is a very popular option with balloons since once they
> >> > achieve a certain altitude, there is typically no need for a path and
> >> > it

> >> > just results in network congestion.
> >> >
> >> > Jason Rausch - KE4NYV
> >> > RPC Electronics, LLC
> >> > www.rpc-electronics.com
> >> >
> >> >
> >> > --- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@> wrote:
> >> >>
> >> >> Just wanted to follow up and let everyone know we pulled off a
> >> >> successful
> >> >> 1st balloon project. The RTrak-HAB performed well. In fact it survived
> >> >> a
> >> >> very hard landing. I didn't mess around with profile or frequency
> >> >> switching just to be safe.
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> >> >> One thing I'm scratching my head over is that although I configured it
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> >> >> "WIDE2,1" it was not picked up by a single repeater. I used APRSISCE
> >> >> running on my laptop with a Verizon mobile wifi hotspot to act as an
> >> >> iGate
> >> >> from my chase-vehicle. That worked great, but I'm puzzled that it was
> >> >> ignored by the rest of the APRS community. There are plenty of
> >> >> repeaters
> >> >> around that certainly heard it.
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> >> >> I ended up going with a vertical dipole which worked very well until
> >> >> roughly 100,000ft at which point we couldn't get out from under the
> >> >> doughnut and started missing packets. We were roughly 12 miles off to
> >> >> the
> >> >> side, but that was no longer enough distance. Our highest-altitude
> >> >> packet
> >> >> came in at 124k and change. Based on our rate of climb at that point
> >> >> and
> >> >> the time-stamp on the video we hit a bit over 126,000ft roughly 3
> >> >> minutes
> >> >> later.
> >> >>
> >> >> Here is a bit of video from the last 1:30 before burst. Thanks for the
> >> >> help with antenna design!
> >> >>
> >> >> http://www.youtube.com/watch?v=GRqrnh_ySNs&feature=g-upl
> >> >>
> >> >> -Ben
> >> >>
> >> >>
> >> >> --- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@> wrote:
> >> >> >
> >> >> > Hello,
> >> >> > I'm preparing my first balloon launch and trying to decide on

> >> >> > antennas
> >> >> > for the mobile ground station as well as the balloon. I'm a new ham,
> >> >> > and
> >> >> > nervous about keeping a strong enough signal over 25-30 miles with
> >> >> > just
> >> >> > 350mw transmit power and random orientation. Suggestions?
> >> >> >
> >> >> > For best front-to-back ratio there are some really neat antenna
> >> >> > designs
> >> >> > (patch, bi-quad with reflector, yagi, 2 and 3 element quad) but they
> >> >> > aren't very conducive to balloon work!
> >> >> >
> >> >> > For those of you who've done this before, what are your
> >> >> > recommendations?
> >> >> > I'm sure I'm over-thinking it, so I'd love to hear what others have
> >> >> > done
> >> >> > with success.
> >> >> >
> >> >> > Thanks!
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426. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 17:55:53 UTC
From: Lynn W. Deffenbaugh (Mr)
Topic: 403 Message: 426

On 9/6/2012 1:00 PM, Mark Conner wrote:
>
> If you look at the raw data:
>
> http://aprs.fi/?c=raw&call=KC7PUC-1&limit=300&view=normal
>
> not only were there no digipeaters shown as digipeating the balloon,
> but only one I-gate received it. A "duh" question for me - was the
> balloon on 144.39 or some other frequency?
>
> I would be hard-pressed to say that the KF7VZR-1 I-gate would have won
> the race to APRS-IS for every packet unless it was the only one
> listening. I have never seen that on my flights except for those
> payloads on a non-144.39 freq.

That's why I ended up in the APRS QSO with him during the flight. My opening message was asking if he was on an alternate frequency because his was the ONLY station receiving the balloon within the footprint that had lots of other RF-enabled APRSISCE/32 IGates (not that a non-RF-enabled IGate would be of much use...)

Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32

427. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 17:54:04 UTC
From: Lynn W. Deffenbaugh (Mr)
Topic: 403 Message: 427

On 9/6/2012 12:54 PM, James Ewen wrote:
>
> Let me guess, you're basing this opinion on data gleaned from the
> APRS-IS stream where only a small portion of the data is available.
>

No, he's basing that opinion on the fact that he and I were in an APRS QSO while the balloon was in flight and there were numerous RF-enabled APRSISCE/32 instances well within the balloon's footprint but his was the ONLY station report ANY receptions of the balloon.

In every other HAB I've monitored, even pre-APRSISCE/32's unfiltered RF feed, at least a FEW packets would get far enough out to hit a delaying gate and show up with a line or two. In this case, every single packet was gated by his mobile IGate alone.

I'd suggest just taking the balloon's tracker out and see if any device other than the mobile (what was the radio in your mobile IGate anyway) receives it.

Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32

PS. His mobile IGate was also gating stuff for many stations around, not always first.

428. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:04:31 UTC
From: Lynn W. Deffenbaugh (Mr)
Topic: 403 Message: 428

One more thought. If the balloon's tracker was set to listen for carrier before transmitting, that could also explain the black-out period. It may not have transmitted due to getting into line of sight with some really powerful and busy set of digipeaters. Calculate your footprint from a 100,000 foot altitude and draw that circle on a map. If it covers some major metropolitan areas (and a 90,000 footprint doesn't) that could 'splain the lack of packets from the higher altitudes.

But I still think you need to track down (no pun intended) why the balloon's tracker didn't get a single packet through any other stations for the entire flight.

Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32

On 9/6/2012 1:25 PM, airsix73 wrote:
>
>
> I apologize if I come off as ignorant. I've been a ham for about 60
> days or so and barely know which way is up at this point.
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> Between 100,000ft and 123,000ft I had a 36 minute black-out. That was
> a long nail-biting half-hour. Meanwhile I was having no trouble
> picking up other digipeated APRS traffic from all around the region.
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> have expected it to be picked up by one of the digipeaters within
> range of my ground station. Even if it was picked up by a digipeater
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429. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:13:33 UTC
From: Jason R
Topic: 403 Message: 429

Lynn,

Unless a receiver was added and interfaced to the input section of the OpenTracker on the RTrak-HAB, there is no carrier detection and the tracker will transmit "in the blind". This is another reason to always run a NO PATH situation when above a certain altitude threshold.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

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> > > >> As for being in the doughnut hole, the simple solution is to not get
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> > > >> > If so, that is the problem, the path should have been WIDE2-1. The
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> > > >> > Jason Rausch - KE4NYV

> > > >> > RPC Electronics, LLC
> > > >> > www.rpc-electronics.com
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> > > >> >> doughnut and started missing packets. We were roughly 12 miles
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> > > >> >> later.
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> > for the
> > > >> >> help with antenna design!
> > > >> >>
> > > >> >> http://www.youtube.com/watch?v=GRqrnh_ySNs&feature=g-upl

> > > >> >>
> > > >> >> -Ben
> > > >> >>
> > > >> >>
> > > >> >> --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com>,
> > "airsix73" <ben.messinger@> wrote:
> > > >> >> >
> > > >> >> > Hello,
> > > >> >> > I'm preparing my first balloon launch and trying to decide on
> > > >> >> > antennas
> > > >> >> > for the mobile ground station as well as the balloon. I'm a
> > new ham,
> > > >> >> > and
> > > >> >> > nervous about keeping a strong enough signal over 25-30
> > miles with
> > > >> >> > just
> > > >> >> > 350mw transmit power and random orientation. Suggestions?
> > > >> >> >
> > > >> >> > For best front-to-back ratio there are some really neat antenna
> > > >> >> > designs
> > > >> >> > (patch, bi-quad with reflector, yagi, 2 and 3 element quad)
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> > > >> >> > aren't very conducive to balloon work!
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> > > >> >> > For those of you who've done this before, what are your
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> > > >> James
> > > >> VE6SRV
> > > >>
> > > >
> > > >
> > > >
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> >
>
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430. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:18:39 UTC
From: Lynn W. Deffenbaugh (Mr)
Topic: 403 Message: 430

Ok, that's one theory proven false!

Back to the question of why nothing else appeared to copy the balloon beacons for the entire flight (unlike most other HAB flights with the inevitable stray packets here and there) and why his own station lost it across the apogee even though it had ultra reliable copy for the rest of the flight.

Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32

On 9/6/2012 2:13 PM, Jason R wrote:
>
> Lynn,
>
> Unless a receiver was added and interfaced to the input section of the
> OpenTracker on the RTrak-HAB, there is no carrier detection and the
> tracker will transmit "in the blind". This is another reason to always
> run a NO PATH situation when above a certain altitude threshold.
>
> Jason Rausch - KE4NYV
> RPC Electronics, LLC
> www.rpc-electronics.com
>
> --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com>, "Lynn
> W. Deffenbaugh (Mr)" <ldeffenb@...> wrote:
> >
> > One more thought. If the balloon's tracker was set to listen for
> > carrier before transmitting, that could also explain the black-out
> > period. It may not have transmitted due to getting into line of sight
> > with some really powerful and busy set of digipeaters. Calculate your
> > footprint from a 100,000 foot altitude and draw that circle on a map.
> > If it covers some major metropolitan areas (and a 90,000 footprint
> > doesn't) that could 'splain the lack of packets from the higher
> altitudes.
> >
> > But I still think you need to track down (no pun intended) why the
> > balloon's tracker didn't get a single packet through any other stations
> > for the entire flight.
> >
> > Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32
> >
> > On 9/6/2012 1:25 PM, airsix73 wrote:
> > >
> > >
> > > I apologize if I come off as ignorant. I've been a ham for about 60
> > > days or so and barely know which way is up at this point.

> > >
> > > Between 100,000ft and 123,000ft I had a 36 minute black-out. That was
> > > a long nail-biting half-hour. Meanwhile I was having no trouble
> > > picking up other digipeated APRS traffic from all around the region.
> > > During that 1/2 hour in which I could not receive my tracker I would
> > > have expected it to be picked up by one of the digipeaters within
> > > range of my ground station. Even if it was picked up by a digipeater
> > > beyond my range to receive by RF I would expect that digipeater would
> > > have got it to someone's igate.
> > >
> > > We don't have heavy APRS traffic in Eastern Washington, but we do
> seem
> > > to have a decent digipeater and igate coverage.
> > >
> > > --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com>
> <mailto:RTrak%40yahoogroups.com>, James
> > > Ewen <ve6srv@> wrote:
> > > >
> > > > So where's your proof that no digipeaters handled the packet?
> Did you
> > > > have stations located near every digipeater for 500 miles
> around? That
> > > > would be the only definitive way of knowing that no digipeater
> handled
> > > > the packet.
> > > >
> > > > Let me guess, you're basing this opinion on data gleaned from the
> > > > APRS-IS stream where only a small portion of the data is available.
> > > >
> > > > Your payload was being heard direct by dozens of i-gates all
> racing to
> > > > get the packet to the internet first. After that the digipeaters
> got a
> > > > chance to act on the packet, and then finally i-gates hearing a
> > > > digipeated packet would get gated. There's little chance that a
> > > > digipeated packet can get to the internet before one heard direct.
> > > >
> > > > The APRS-IS stream is not a reliable tool to use for network
> monitoring.
> > > >
> > > >
> > > >
> > > > On 9/6/12, airsix73 <ben.messinger@> wrote:
> > > > > Thanks James & Jason,
> > > > > Here is a cut and paste of a packet (pulled from aprs.fi)
> > > > >
> > > > > 2012-09-01 18:32:09 UTC:
> > > > >
> > >
> KC7PUC-1>APOTC1,WIDE2-1,qAR,KF7VZR-1:!4632.56N/11931.92WO322/019/A=124524

> > > > > 07.4 13C M&M Space Prog.
> > > > >
> > > > > So "WIDE2-1" should have been a good 1-hop path, right? Thank
> you for
> > > > > correcting me on that as well as the repeater/digipeater slip up.
> > > I did
> > > > > notice right from the get-go aprs.fi was flagging it with a path
> > > warning due
> > > > > to the path/altitude combination (even at very low altitude). Are
> > > > > digipeaters filtering out packets they think have a bad path?
> > > > >
> > > > > Regarding the doughnut hole: Tried moving the antenna to the side
> > > of the
> > > > > vehicle to no effect and it was a van with about a 4ft square
> door
> > > (good
> > > > > ground plane). Perhaps we just never got the vehicle oriented
> > > properly in
> > > > > relation to the balloon.
> > > > >
> > > > > Ben
> > > > >
> > > > > --- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com>
> <mailto:RTrak%40yahoogroups.com>,
> > > James Ewen <ve6srv@> wrote:
> > > > >>
> > > > >> As Jason has mentioned, WIDE2-1 would be a valid path
> request. APRS
> > > > >> packets will not activate repeaters, but rather digipeaters.
> > > > >>
> > > > >> Digipeaters listen on 144.390 capture packets and forward those
> > > > >> packets back out on the same frequency if a valid path alias
> is seen
> > > > >> by the digipeater.
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> > > > >> >> switching just to be safe.
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> > > > >> >> -Ben
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> > > > >> >> --- In RTrak@yahoogroups.com

> <mailto:RTrak%40yahoogroups.com> <mailto:RTrak%40yahoogroups.com>,
> > > "airsix73" <ben.messinger@> wrote:
> > > > >> >> >
> > > > >> >> > Hello,
> > > > >> >> > I'm preparing my first balloon launch and trying to
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431. Re: [RTrak] RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:18:36 UTC
From: Tom Hayward
Topic: 403 Message: 431

On Thu, Sep 6, 2012 at 11:54 AM, Lynn W. Deffenbaugh (Mr)
<ldeffenb@...> wrote:
> No, he's basing that opinion on the fact that he and I were in an APRS QSO
> while the balloon was in flight and there were numerous RF-enabled
> APRSISCE/32 instances well within the balloon's footprint but his was the
> ONLY station report ANY receptions of the balloon.
>
> In every other HAB I've monitored, even pre-APRSISCE/32's unfiltered RF
> feed, at least a FEW packets would get far enough out to hit a delaying gate
> and show up with a line or two. In this case, every single packet was gated
> by his mobile IGate alone.

I just checked the RF log at BALDI and dupe log on northwest.aprs2.net
(where many of the region's igates connect), and KC7PUC-1 never made
it into any of them either. Very odd, considering the footprint.

It's nice being able to look these things up in RF logs! Of course my
logs aren't nearly as omniscient as Lynn's.

Tom KD7LXL

432. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:19:29 UTC
From: Jason R
Topic: 403 Message: 432

As for the reason that only one station was hearing the tracker, I can't say. I can tell you that EVERY RTrak-HAB that we built is paired to a single MX145H transmitter module and THEN all final alignments and tests are done using that particular module. That includes our final deviation alignment which is set a little hot, around the 4 kHz mark. We found that when down at around 3.5 kHz, the packet is a little "weak" and doesn't get reliably decoded.

So I guess that poses the question, was the deviation re-adjusted by anyone prior to the launch? The soft slider in the config software is extremely sensitive to even the slightest movement. We align every tracker with a full blown RF service monitor that allows us to have a good measure on the transmitted tone deviation. When we made a change to the voltage divider circuit that interfaces the OpenTracker to the MX145H, we found that the audio had much more punch, but also needed to be set well down on the soft slider. The original values did not provide enough audio and even at the full max level, still only gave us 2-2.5 kHz deviation.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Lynn W. Deffenbaugh (Mr)" <ldeffenb@...> wrote:
>
> On 9/6/2012 12:54 PM, James Ewen wrote:
> >
> > Let me guess, you're basing this opinion on data gleaned from the
> > APRS-IS stream where only a small portion of the data is available.
> >
>
> No, he's basing that opinion on the fact that he and I were in an APRS
> QSO while the balloon was in flight and there were numerous RF-enabled
> APRSISCE/32 instances well within the balloon's footprint but his was
> the ONLY station report ANY receptions of the balloon.
>
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> feed, at least a FEW packets would get far enough out to hit a delaying
> gate and show up with a line or two. In this case, every single packet
> was gated by his mobile IGate alone.
>
> I'd suggest just taking the balloon's tracker out and see if any device
> other than the mobile (what was the radio in your mobile IGate anyway)
> receives it.
>
> Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32
>
> PS. His mobile IGate was also gating stuff for many stations around,
> not always first.

>

433. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:20:42 UTC
From: airsix73
Topic: 403 Message: 433

Hi Lynn! It was nice having you along for the ride that day. I'm glad to see you were listening in on this thread.

Just so everyone is clear, yes, the tracker was broadcasting on 144.39. An alternate frequency is used West of the Cascades, but I'm in the region to the East that should be using the standard 144.39 (as far as I know).

Ben

--- In RTrak@yahoogroups.com, "Lynn W. Deffenbaugh (Mr)" <ldeffenb@...> wrote:
>
> On 9/6/2012 12:54 PM, James Ewen wrote:
> >
> > Let me guess, you're basing this opinion on data gleaned from the
> > APRS-IS stream where only a small portion of the data is available.
> >
>
> No, he's basing that opinion on the fact that he and I were in an APRS
> QSO while the balloon was in flight and there were numerous RF-enabled
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>
> Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32
>
> PS. His mobile IGate was also gating stuff for many stations around,
> not always first.
>

434. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:45:31 UTC
From: airsix73
Topic: 403 Message: 434

My documentation says nothing about TX audio level and temp deviation being factory tuned and not to touch it. Sure wish I'd known that. I just pulled up my manual just to be sure and there is no mention of this. They've both been played with. I can tell you my audio level slider is at about 33% (no idea what it was from factory) and temp adjust is +4 (it was 0).

I know it isn't conclusive, but my RTrak packets have always sounded strong and clear to my ear. I'm using the UZ7HO Soundmodem as my TNC and it reliably translates them as well as all other traffic with a fair signal strength.

Thanks for the ongoing help everyone!

Ben

--- In RTrak@yahoogroups.com, "Jason R" <lists@...> wrote:
>
> As for the reason that only one station was hearing the tracker, I can't say. I can tell you that EVERY RTrak-HAB that we built is paired to a single MX145H transmitter module and THEN all final alignments and tests are done using that particular module. That includes our final deviation alignment which is set a little hot, around the 4 kHz mark. We found that when down at around 3.5 kHz, the packet is a little "weak" and doesn't get reliably decoded.
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> So I guess that poses the question, was the deviation re-adjusted by anyone prior to the launch? The soft slider in the config software is extremely sensitive to even the slightest movement. We align every tracker with a full blown RF service monitor that allows us to have a good measure on the transmitted tone deviation. When we made a change to the voltage divider circuit that interfaces the OpenTracker to the MX145H, we found that the audio had much more punch, but also needed to be set well down on the soft slider. The original values did not provide enough audio and even at the full max level, still only gave us 2-2.5 kHz deviation.
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>
>
> --- In RTrak@yahoogroups.com, "Lynn W. Deffenbaugh (Mr)" <ldeffenb@> wrote:
> >
> > On 9/6/2012 12:54 PM, James Ewen wrote:
> > >
> > > Let me guess, you're basing this opinion on data gleaned from the
> > > APRS-IS stream where only a small portion of the data is available.
> > >
> >
> > No, he's basing that opinion on the fact that he and I were in an APRS

> > QSO while the balloon was in flight and there were numerous RF-enabled
> > APRSISCE/32 instances well within the balloon's footprint but his was
> > the ONLY station report ANY receptions of the balloon.
> >
> > In every other HAB I've monitored, even pre-APRSISCE/32's unfiltered RF
> > feed, at least a FEW packets would get far enough out to hit a delaying
> > gate and show up with a line or two. In this case, every single packet
> > was gated by his mobile IGate alone.
> >
> > I'd suggest just taking the balloon's tracker out and see if any device
> > other than the mobile (what was the radio in your mobile IGate anyway)
> > receives it.
> >
> > Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32
> >
> > PS. His mobile IGate was also gating stuff for many stations around,
> > not always first.
> >
>

435. Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 18:55:30 UTC
From: Jason R
Topic: 403 Message: 435

Ben,

The TX deviation and temp compensation are two completely different things. In this case, I am referring to the TX deviation slider in the RTrak/OpenTracker configuration software. Typically, when set here in the shop, the slider should be down towards the left end of the range and between the second and third hash marks. If you are up around the 30% mark, I can just about assure you that the deviation is off the charts and I'm surprised that anything was able to decode it.

When the OpenTracker was first design by Scott Miller, he found resistor values for the TX audio voltage divider that was good for about 90% of the radios out there. Some of the commercial radios needed a boost and he even included a jumper on-board to short the top resistor and give that boost. When we started to design around the MX14x transmitters, we found that this audio boost was a must have, so instead of adding a jumper, we just adjusted the installed resistor value to eliminate the need of a jumper that would always need to be in place anyways. After making this change, we got the audio boost we needed, but it was pretty hot, so instead of the slider being about mid range (typical for most radios), the slider is usually on the low end.

If you would like, I can send you a default profile that can be loaded into the config software. This will put the tracker back to factory defaults and put the audio level around the sweet spot. It may need slight tweaking, but you'll be 99% of the way there. I can send you this file after I get home. Please send me an email at jason (at) rpc-electronics.com and I will respond with the file attached. Keep in mind, any settings that you have in the tracker will be erased and you'll need to reset them.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "airsix73" <ben.messinger@...> wrote:
>
> My documentation says nothing about TX audio level and temp deviation being factory tuned and not to touch it. Sure wish I'd known that. I just pulled up my manual just to be sure and there is no mention of this. They've both been played with. I can tell you my audio level slider is at about 33% (no idea what it was from factory) and temp adjust is +4 (it was 0).
>
> I know it isn't conclusive, but my RTrak packets have always sounded strong and clear to my ear. I'm using the UZ7HO Soundmodem as my TNC and it reliably translates them as well as all other traffic with a fair signal strength.
>
> Thanks for the ongoing help everyone!
>
> Ben
>

> --- In RTrak@yahoogroups.com, "Jason R" <lists@> wrote:
> >
> > As for the reason that only one station was hearing the tracker, I can't say. I can tell you that EVERY RTrak-HAB that we built is paired to a single MX145H transmitter module and THEN all final alignments and tests are done using that particular module. That includes our final deviation alignment which is set a little hot, around the 4 kHz mark. We found that when down at around 3.5 kHz, the packet is a little "weak" and doesn't get reliably decoded.
> >
> > So I guess that poses the question, was the deviation re-adjusted by anyone prior to the launch? The soft slider in the config software is extremely sensitive to even the slightest movement. We align every tracker with a full blown RF service monitor that allows us to have a good measure on the transmitted tone deviation. When we made a change to the voltage divider circuit that interfaces the OpenTracker to the MX145H, we found that the audio had much more punch, but also needed to be set well down on the soft slider. The original values did not provide enough audio and even at the full max level, still only gave us 2-2.5 kHz deviation.
> >
> > Jason Rausch - KE4NYV
> > RPC Electronics, LLC
> > www.rpc-electronics.com
> >
> >
> > --- In RTrak@yahoogroups.com, "Lynn W. Deffenbaugh (Mr)" <ldeffenb@> wrote:
> > >
> > > On 9/6/2012 12:54 PM, James Ewen wrote:
> > > >
> > > > Let me guess, you're basing this opinion on data gleaned from the
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> > > >
> > >
> > > No, he's basing that opinion on the fact that he and I were in an APRS
> > > QSO while the balloon was in flight and there were numerous RF-enabled
> > > APRSISCE/32 instances well within the balloon's footprint but his was
> > > the ONLY station report ANY receptions of the balloon.
> > >
> > > In every other HAB I've monitored, even pre-APRSISCE/32's unfiltered RF
> > > feed, at least a FEW packets would get far enough out to hit a delaying
> > > gate and show up with a line or two. In this case, every single packet
> > > was gated by his mobile IGate alone.
> > >
> > > I'd suggest just taking the balloon's tracker out and see if any device
> > > other than the mobile (what was the radio in your mobile IGate anyway)
> > > receives it.
> > >
> > > Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32
> > >
> > > PS. His mobile IGate was also gating stuff for many stations around,
> > > not always first.
> > >

> >
>

436. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 19:48:04 UTC
From: James Ewen
Topic: 403 Message: 436

On Thu, Sep 6, 2012 at 11:25 AM, airsix73 <ben.messinger@...> wrote:

> I apologize if I come off as ignorant. I've been a ham for about 60 days or so
> and barely know which way is up at this point.

Being a newbie and in search of information is much better than being
someone who thinks they know everything and won't listen to anyone
else... We have a lot of the latter around.

I've been reading and replying on the Blackberry so had limited access
to the available data.

Now with more information such as only a single i-gate heard and gated
you, not just that no digipeaters acted upon the packet, we're on a
different trail...

As Jason has indicated, your "tweaking" of the TX level could be the
culprit. Excessive deviation is the usual culprit for lack of receive
by other stations. Be glad you got the data you did, and recovered the
payload... put this knowledge in the brain bucket and move on to more
experimenting.

The usual culprit for "issues" like you initially reported is lack of
understanding of the function of the APRS-IS.

BTW, welcome to the hobby, and have fun climbing the learning curve.

If you haven't already check out the GPSL reflector and APRSISCE/32 as a client.

--
James
VE6SRV

437. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 21:02:40 UTC
From: Lynn W. Deffenbaugh (Mr)
Topic: 403 Message: 437

On 9/6/2012 2:55 PM, Jason R wrote:
>
> The TX deviation and temp compensation are two completely different
> things. In this case, I am referring to the TX deviation slider in the
> RTrak/OpenTracker configuration software. Typically, when set here in
> the shop, the slider should be down towards the left end of the range
> and between the second and third hash marks. If you are up around the
> 30% mark, I can just about assure you that the deviation is off the
> charts and I'm surprised that anything was able to decode it.
>

UZ7HO's SoundModem is flat out amazing. It'll decode just about anything, but I'm not surprised that other stations, especially hardware-based ones, were turning a deaf ear.

If you have access to any hardware APRS TNCs or radios (Kenwood or Yaesu), it'd be interesting to put the balloon tracker next to them and the SoundModem setup and see what decodes it. Then crank that slider back down and see where they come back into decoding.

Lynn (D) - KJ4ERJ - Author of APRSISCE for Windows Mobile and Win32

438. Re: [RTrak] Re: RTrak-HAB antenna thoughts

Yahoo group: RTrak
Date: 2012-09-06 21:35:29 UTC
From: Keith VE7GDH
Topic: 403 Message: 438

Ben KF7VZR (got that from a June 22 message) wrote...

> My documentation says nothing about TX audio level...
> They've both been played with...

Deviation is important. If it's too high (within limits) nearby stations may still be able to decode the tones. Distant ones where your signal is weaker may not be able to. You have probably heard this on a voice repeater or even on simplex. A distant and noisy station can be copied via a repeater if he backs off from the mic. If he starts shouting, the deviation goes up. More energy is outside the passband of the receiver and eventually the signal is too noisy to copy or the squelch might even close. If you are simplex, you can try opening your squelch. If you are on a repeater, you're out of luck. It's the same with packet. You are better off having the deviation set properly. It can be done by ear, but a deviation meter or service monitor would be better. Lacking one, just crank the deviation all of the way up and then start turning it down. When it starts to sound quieter, turn it down some more. It will get you in the ballpark, but checking the actual deviation would be better.

Perhaps you could check the actual deviation before you change anything. So... could over-deviation explain why only one iGate heard you?

73 es cul - Keith VE7GDH
--
"I may be lost, but I know exactly where I am!"

439. RTrak Tuning?

Yahoo group: RTrak
Date: 2012-10-26 03:02:52 UTC
From: sdrumm_98
Topic: 439 Message: 439

I've noticed two problems with my latest RTrak installation:

(1) My 2m voice rig occasionally picks up the beacons from the RTrak when I'm tuned to 145.390 (local repeater) even though the RTrak is broadcasting on 144.390, and...

(2) Compared to my earlier setup (an OT w/ a Yaesu VX-170) my packets aren't being consistently picked up by the local APRS network. I'd say maybe 1 out of 4 transmissions is successful.

Based on the above, I'm wondering if I have a transmitter deviation problem. What's the best way to "tune" the RTrak?

Thanks!

73
N3XFD

440. Re: [RTrak] RTrak Tuning?

Yahoo group: RTrak
Date: 2012-10-26 12:41:45 UTC
From: lists@ke4nyv.com
Topic: 439 Message: 440

> (1) My 2m voice rig occasionally picks up the beacons from the RTrak when I'm > tuned to 145.390 (local repeater) even though the RTrak is broadcasting on > 144.390, and...
Are you set up for dual frequency operation? That could cause what you are describing.
 There is also the chance that your mobile might not have very good adjacent channel rejection and you're hearing a harmonic.

> (2) Compared to my earlier setup (an OT w/ a Yaesu VX-170) my packets aren't > being consistently picked up by the local APRS network. I'd say maybe 1 out of 4 > transmissions is successful.
That does sound like the deviation is not correct. When you say "picked up by local APRS network" how are you verifying that? Direct decode local with an actual radio? Looking online to see if it shows up? If it's the latter, keep in mind the transmitter is only 350mW, so unless you are in the air or fairly close to a digipeater, I don't expect the RTrak-HAB to show up online. It's all about being heard by an iGate, to get the packet to the internet.

> Based on the above, I'm wondering if I have a transmitter deviation problem. > What's the best way to "tune" the RTrak?
The BEST way is with a calibrated RF service monitor that has a deviation meter. In general the packet audio should be 3.5-4 kHz. I tend to find that it needs to be on the higher 4 kHz end. We "marry" each tracker to an MX145H transmitter and then do final alignment. That way, you're getting an aligned tracker with the actual transmitter that it ships with.
If you don't have access to an RF service monitor, one method is to listen to other packets on the network and then try to adjust the RTrak-HAB to transmit at roughly the same audible level. This can be hard for some people to do, but it's not too difficult to get close.
 1200 baud packet is somewhat forgiving in this regard, but it can't be too out of whack or else nothing will decode it.
Jason Rausch - KE4NYVRPC Electronics, LLCwww.rpc-electronics.com

--- On Thu, 10/25/12, sdrumm_98 <swdrumm@...> wrote:

From: sdrumm_98 <swdrumm@gmail.com>
Subject: [RTrak] RTrak Tuning?
To: RTrak@yahoogroups.com
Date: Thursday, October 25, 2012, 11:02 PM

I've noticed two problems with my latest RTrak installation:

(1) My 2m voice rig occasionally picks up the beacons from the RTrak when I'm tuned to 145.390 (local repeater) even though the RTrak is broadcasting on 144.390, and...

(2) Compared to my earlier setup (an OT w/ a Yaesu VX-170) my packets aren't being consistently picked up by the local APRS network. I'd say maybe 1 out of 4 transmissions is successful.

Based on the above, I'm wondering if I have a transmitter deviation problem. What's the best way to "tune" the RTrak?

Thanks!

73

N3XFD

441. Re: RTrak Tuning?

Yahoo group: RTrak
Date: 2012-10-28 01:55:57 UTC
From: sdrumm_98
Topic: 439 Message: 441

> Are you set up for dual frequency operation? That could cause what you are describing. There is also the chance that your mobile might not have very good adjacent channel rejection and you're hearing a harmonic.

Yep. Both the RTrak and my voice rig are connected to NMO 2/70 antennas.

> That does sound like the deviation is not correct. When you say "picked up by local APRS network" how are you verifying that? Direct decode local with an actual radio? Looking online to see if it shows up? If it's the latter, keep in mind the transmitter is only 350mW, so unless you are in the air or fairly close to a digipeater, I don't expect the RTrak-HAB to show up online.

The highly scientific method "B". My baseline is the original setup, which was a 5-watt VX-170 w/ OT1+ and a 5/8 wave antenna mounted on the roof vs. the current RTrak on an NMO 2/70 mounted on the rear bumper of my truck. Definitely a compromise installation, but I'm surprised at how many packets aren't making it to the iGate.

> If you don't have access to an RF service monitor, one method is to listen to other packets on the network and then try to adjust the RTrak-HAB to transmit at roughly the same audible level.

I'll give that method a try - I know what my RTrak sounds like from listening carefully for the corner peg packet when I turn, and it's a bit quiet. I'll bump the audio up and see if it improves.

Thanks!

442. GPS antenna sensitivity?

Yahoo group: RTrak
Date: 2012-11-09 03:21:31 UTC
From: Jason KG4WSV
Topic: 442 Message: 442

We've got 4 Rtrak-HAB units. I had no problems during testing, but the chase team reported the units did not transmit a lot of data during the flight.

Tonight while checking the units for the next flight, I noticed the GPS lost lock when I leaned over near it, and when the unit was outside on the ground with the GPS antenna pointed toward the horizon.

Has anyone else experienced any position sensitivity with the RTrak-HAB antenna?

--
-Jason
kg4wsv

443. My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2012-12-01 13:19:30 UTC
From: sixmeterea
Topic: 443 Message: 443

Hello, how I can change the frequency of my RTrak-HAB, the frequency
I have 144.390 default is not used in Europe, I tested with
configuration software and always transmits in 144.390.Any ideas??
Thanks - Enric - EA3IK

444. Re: [RTrak] My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2012-12-01 16:24:49 UTC
From: Jason KG4WSV
Topic: 443 Message: 444

On Sat, Dec 1, 2012 at 7:19 AM, sixmeterea <6meter@...> wrote:

> Hello, how I can change the frequency of my RTrak-HAB, the frequency
> I have 144.390 default is not used in Europe, I tested with
> configuration software and always transmits in 144.390.Any ideas??
>

There's a bug. We discovered it in March, still waiting for a fix.

The unit will not function unless it is allowed to TX on 144.390 on the
first frequency.

-Jason
kg4wsv

445. Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-02-22 23:06:35 UTC
From: jasonbunwin
Topic: 443 Message: 445

Have you fixed the bug yet?

Jason Unwin
Hewitt, TX

--- In RTrak@yahoogroups.com, Jason KG4WSV <kg4wsv@...> wrote:
>
> On Sat, Dec 1, 2012 at 7:19 AM, sixmeterea <6meter@...> wrote:
>
> > Hello, how I can change the frequency of my RTrak-HAB, the frequency
> > I have 144.390 default is not used in Europe, I tested with
> > configuration software and always transmits in 144.390.Any ideas??
> >
>
> There's a bug. We discovered it in March, still waiting for a fix.
>
> The unit will not function unless it is allowed to TX on 144.390 on the
> first frequency.
>
>
> -Jason
> kg4wsv
>

446. Re: [RTrak] Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-02-26 21:30:13 UTC
From: Jason KG4WSV
Topic: 443 Message: 446

On Fri, Feb 22, 2013 at 5:06 PM, jasonbunwin <jasonbunwin@...> wrote:
> Have you fixed the bug yet?

I haven't; I'm another Jason waiting for a fix. You want the other
Jason who makes the RTrak.

-Jason
kg4wsv

447. Re: [RTrak] Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-02-26 22:03:55 UTC
From: Scott Miller
Topic: 443 Message: 447

If there's an actual firmware bug it would be on my end, but I haven't touched the OT1+ code in a while. I can't find an RTRAK or other OT1+/MX146 combination around here to test with, though I'm sure I must have had one. If someone wants to send me one I can check it out.

Scott
N1VG

On 2/26/2013 1:30 PM, Jason KG4WSV wrote:
> On Fri, Feb 22, 2013 at 5:06 PM, jasonbunwin <jasonbunwin@...> wrote:
>> Have you fixed the bug yet?
>
>
> I haven't; I'm another Jason waiting for a fix. You want the other
> Jason who makes the RTrak.
>
> -Jason
> kg4wsv
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> Yahoo! Groups Links
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448. Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-03-05 15:36:54 UTC
From: Jason R
Topic: 443 Message: 448

Scott et All,

It always seems that I am sold out and never have any units left for my own use, but let me see if I have something I can send you for testing. I think it would be best to send you an RTrak-HAB, since that is the unit that most are using for dual-frequency operations.

However, I can report that I did a test a couple of weeks ago with my test unit. I set it to beacon on 144.390 and then 144.790. Alternating back and fourth every beacon. I then set both up with two D7 handhelds on the respective frequencies. Upon power up, I could watch the unit switch back and fourth on every beacon, decoding them on the two D7 handhelds. My test showed that the dual-frequency function was working, but I have heard from too many people stating that it does NOT work to just assume that it does work 100%

I need to set that back up and shoot a short video of it working. I might even do a short screen capture video showing how to set up the tracker in the configuration program.

For those that want to at least read through the instructions, I have posted a special page on the website showing step by step how to set up dual frequency operation:

http://www.rpc-electronics.com/rtrakdualfreqtutorial.php

It is important to note that this function will NOT work if you have re-flashed your RTrak-HAB with the standard OpenTracker 1+ firmware. This firmware does not contain the frequency control code!

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, Scott Miller <scott@...> wrote:
>
> If there's an actual firmware bug it would be on my end, but I haven't
> touched the OT1+ code in a while. I can't find an RTRAK or other
> OT1+/MX146 combination around here to test with, though I'm sure I must
> have had one. If someone wants to send me one I can check it out.
>
> Scott
> N1VG
>
> On 2/26/2013 1:30 PM, Jason KG4WSV wrote:
> > On Fri, Feb 22, 2013 at 5:06 PM, jasonbunwin <jasonbunwin@...> wrote:
> >> Have you fixed the bug yet?
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> >
> > I haven't; I'm another Jason waiting for a fix. You want the other
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> > -Jason
> > kg4wsv
> >
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> > Yahoo! Groups Links
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449. Re: [RTrak] Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-03-05 17:49:14 UTC
From: Jason KG4WSV
Topic: 443 Message: 449

On Tue, Mar 5, 2013 at 9:36 AM, Jason R <lists@...> wrote:
> However, I can report that I did a test a couple of weeks ago with my test unit. I set it to beacon on 144.390 and then 144.790. Alternating back and fourth every beacon. I then set both up with two D7 handhelds on the respective frequencies. Upon power up, I could watch the unit switch back and fourth on every beacon, decoding them on the two D7 handhelds. My test showed that the dual-frequency function was working, but I have heard from too many people stating that it does NOT work to just assume that it does work 100%

The problem we have is that the unit will not transmit unless one of the frequencies in use is 144.390 (I haven't tried 144.39 as anything other than the first freq).

I can beacon 9 times on 144.990 and once on 144.39, but I can't move entirely off 144.39. Ever.

This is a problem for us as our primary tracker is on 144.39 at once a minute. We like to put the backups on a different frequency - to be friendly to 144.39, to get a quiet channel, and sometimes to use a higher rate, like 15s or 10s.

I'd imagine the 144.39 thing could be a show stopper for our friends outside the US.

We've got a flight coming up; if anything survives I can probably send you one of ours.

-Jason
kg4wsv

450. RE: [RTrak] Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-03-05 18:30:05 UTC
From: Barry Sloan
Topic: 443 Message: 450

Jason (KE4NYV),

Just wanted to let you know that we have used the dual freq option on several flights without a problem.

Barry
VE6SBS
bear.sbszoo.com

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of Jason R
Sent: Tuesday, March 05, 2013 8:37 AM
To: RTrak@yahoogroups.com
Subject: [RTrak] Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Scott et All,

It always seems that I am sold out and never have any units left for my own use, but let me see if I have something I can send you for testing. I think it would be best to send you an RTrak-HAB, since that is the unit that most are using for dual-frequency operations.

However, I can report that I did a test a couple of weeks ago with my test unit. I set it to beacon on 144.390 and then 144.790. Alternating back and fourth every beacon. I then set both up with two D7 handhelds on the respective frequencies. Upon power up, I could watch the unit switch back and fourth on every beacon, decoding them on the two D7 handhelds. My test showed that the dual-frequency function was working, but I have heard from too many people stating that it does NOT work to just assume that it does work 100%

I need to set that back up and shoot a short video of it working. I might even do a short screen capture video showing how to set up the tracker in the configuration program.

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It is important to note that this function will NOT work if you have re-flashed your RTrak-HAB with the standard OpenTracker 1+ firmware. This firmware does not contain the frequency control code!

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com <mailto:RTrak%40yahoogroups.com> , Scott Miller wrote:
>
> If there's an actual firmware bug it would be on my end, but I haven't
> touched the OT1+ code in a while. I can't find an RTRAK or other
> OT1+/MX146 combination around here to test with, though I'm sure I must
> have had one. If someone wants to send me one I can check it out.
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> Scott
> N1VG
>
> On 2/26/2013 1:30 PM, Jason KG4WSV wrote:
> > On Fri, Feb 22, 2013 at 5:06 PM, jasonbunwin wrote:
> >> Have you fixed the bug yet?
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> >
> > I haven't; I'm another Jason waiting for a fix. You want the other
> > Jason who makes the RTrak.
> >
> > -Jason
> > kg4wsv
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> > Yahoo! Groups Links
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451. Re: [RTrak] Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-03-05 22:45:13 UTC
From: Scott Miller
Topic: 443 Message: 451

And if you change the primary frequency to something else it doesn't work?

There shouldn't be anything special about 144.39. Maybe there's a
glitch relating to use of that channel slot, but there's no significance
to that frequency in the software.

Scott

On 3/5/2013 9:49 AM, Jason KG4WSV wrote:
> On Tue, Mar 5, 2013 at 9:36 AM, Jason R <lists@...> wrote:
>> However, I can report that I did a test a couple of weeks ago with my test unit. I set it to beacon on 144.390 and then 144.790. Alternating back and fourth every beacon. I then set both up with two D7 handhelds on the respective frequencies. Upon power up, I could watch the unit switch back and fourth on every beacon, decoding them on the two D7 handhelds. My test showed that the dual-frequency function was working, but I have heard from too many people stating that it does NOT work to just assume that it does work 100%
>
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> I can beacon 9 times on 144.990 and once on 144.39, but I can't move
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>
> This is a problem for us as our primary tracker is on 144.39 at once a
> minute. We like to put the backups on a different frequency - to be
> friendly to 144.39, to get a quiet channel, and sometimes to use a
> higher rate, like 15s or 10s.
>
> I'd imagine the 144.39 thing could be a show stopper for our friends
> outside the US.
>
> We've got a flight coming up; if anything survives I can probably send
> you one of ours.
>
>
> -Jason
> kg4wsv
>
>
> ------------------------------------
>
> Yahoo! Groups Links
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>

452. Re: [RTrak] Re: My RTrak-HAB, not let me change frequency to 144 800 tx

Yahoo group: RTrak
Date: 2013-03-06 00:35:51 UTC
From: Jason KG4WSV
Topic: 443 Message: 452

On Tue, Mar 5, 2013 at 4:45 PM, Scott Miller <scott@...> wrote:
> And if you change the primary frequency to something else it doesn't work?

Correct.

> There shouldn't be anything special about 144.39. Maybe there's a
> glitch relating to use of that channel slot, but there's no significance
> to that frequency in the software.

I don't recall if I did any testing related to that.

Since they're all configured for flight, I probably won't mess with
them until after our flight in a few weeks.

-Jason
kg4wsv

453. RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-26 23:15:53 UTC
From: Jason KG4WSV
Topic: 453 Message: 453

Got some RTrak-HAB models that worked and have been on the shelf for several months. I built new packaging (to allow for the very position sensitive GPS antenna) and the things won't get lock. I've had them outside with the GPS antenna facing at most 10 degrees or so off vertical, and only one of the 4 has locked, and that one took about 30 or 45 minutes.

Any suggestions?

--
-Jason
kg4wsv

454. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 12:41:26 UTC
From: lists@...
Topic: 453 Message: 454

Jason,
Does the antenna have a built-in LNA? If so, do you know what voltage? The RTrak-HAB induces a +3.3V voltage through an inductor onto the RF feed to power the stock antenna's LNA. If your LNA needs +5V, the supplied 3.3V is obviously not enough and if for some reason it's 1.8V, 3.3V is too much and might have damaged the antenna's LNA.
Can you connect up the stock antenna and get the RTrak-HAB to operate normally?
Just a couple of thoughts off the top of my head!

Jason Rausch - KE4NYVRPC Electronics, LLCwww.rpc-electronics.com

--- On Tue, 3/26/13, Jason KG4WSV <kg4wsv@...> wrote:

From: Jason KG4WSV <kg4wsv@...>
Subject: [RTrak] RTrak-HAB doesn't lock
To: rtrak@yahoogroups.com
Date: Tuesday, March 26, 2013, 7:15 PM

Got some RTrak-HAB models that worked and have been on the shelf for

several months. I built new packaging (to allow for the very position

sensitive GPS antenna) and the things won't get lock. I've had them

outside with the GPS antenna facing at most 10 degrees or so off

vertical, and only one of the 4 has locked, and that one took about 30

or 45 minutes.

Any suggestions?

--

-Jason

kg4wsv

455. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 13:04:20 UTC
From: Jason KG4WSV
Topic: 453 Message: 455

On Wed, Mar 27, 2013 at 7:41 AM, <lists@...> wrote:

> Does the antenna have a built-in LNA?

It's the stock amplified patch antenna.

I left them on for a few hours last night with no success. I turned one of them back on this morning and it locked. I'll try the rest shortly.

-Jason
kg4wsv

456. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 12:49:16 UTC
From: Andrew Rich
Topic: 453 Message: 456

When I get stuck I add a serial terminal to the equation to see what is going on

Last one was a flat GPS back up battery

- Andrew -
----- Original Message -----
From: lists@...
To: RTrak@yahoogroups.com
Sent: Wednesday, March 27, 2013 10:41 PM
Subject: Re: [RTrak] RTrak-HAB doesn't lock

Jason,

Does the antenna have a built-in LNA? If so, do you know what voltage? The RTrak-HAB induces a +3.3V voltage through an inductor onto the RF feed to power the stock antenna's LNA. If your LNA needs +5V, the supplied 3.3V is obviously not enough and if for some reason it's 1.8V, 3.3V is too much and might have damaged the antenna's LNA.

Can you connect up the stock antenna and get the RTrak-HAB to operate normally?

Just a couple of thoughts off the top of my head!

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- On Tue, 3/26/13, Jason KG4WSV <kg4wsv@...> wrote:

From: Jason KG4WSV <kg4wsv@...>
Subject: [RTrak] RTrak-HAB doesn't lock
To: rtrak@yahoogroups.com
Date: Tuesday, March 26, 2013, 7:15 PM

Got some RTrak-HAB models that worked and have been on the shelf for several months. I built new packaging (to allow for the very position sensitive GPS antenna) and the things won't get lock. I've had them outside with the GPS antenna facing at most 10 degrees or so off vertical, and only one of the 4 has locked, and that one took about 30 or 45 minutes.

Any suggestions?

--
-Jason
kg4wsv

No virus found in this message.
Checked by AVG - www.avg.com

Version: 2013.0.2904 / Virus Database: 2641/6198 - Release Date: 03/23/13

457. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 13:10:10 UTC
From: Jason KG4WSV
Topic: 453 Message: 457

On Wed, Mar 27, 2013 at 7:49 AM, Andrew Rich <vk4tec@...>wrote:

> **
>
>
> When I get stuck I add a serial terminal to the equation to see what is
> going on
>
>

Yeah, that was on my to-do list this morning.

> Last one was a flat GPS back up battery
>

There is no external backup battery on this unit; I don't know what's
inside the can.

I know the GPS18 I cracked open has a tiny rechargeable coin cell in there;
maybe this one has something similar.

-Jason
kg4wsv

458. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 13:49:48 UTC
From: Jason KG4WSV
Topic: 453 Message: 458

Does the GPS get stupid if the antenna is mounted on top of metal?

I've fabricated a 3/4" square aluminum bracket that the antenna sits on to keep it oriented vertically during flight. Iused the factory double-stick tape to stick it to this bracket.

-Jason
kg4wsv

459. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 16:11:55 UTC
From: Jason KG4WSV
Topic: 453 Message: 459

Well, after repeated powerup/shutdown cycles, sometimes with a disconnect of the GPS data jumper thrown in, the units all finally locked.

Then I put all 4 of them in their styrofoam packaging, took them back outside for a final test, and nothing.

The foam isn't shielding; I have 6 non-RTrak trackers working just fine.

-Jason
kg4wsv

460. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 13:58:04 UTC
From: Andrew Rich
Topic: 453 Message: 460

Vertically ?

What sort of gps antenna ?

I suffer from multi path off my tin roof but that is massive

Sent from my iPhone
Andrew Rich

On 27/03/2013, at 11:49 PM, Jason KG4WSV <kg4wsv@...> wrote:

> Does the GPS get stupid if the antenna is mounted on top of metal?
>
>
> I've fabricated a 3/4" square aluminum bracket that the antenna sits on to keep it oriented vertically during flight. Iused the factory double-stick tape to stick it to this bracket.
>
> -Jason
> kg4wsv
>

461. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 13:28:37 UTC
From: Andrew Rich
Topic: 453 Message: 461

Yeah they take a bit to find out where they are -

But 30 mins is probably a bit long

- Andrew -
----- Original Message -----
From: Jason KG4WSV
To: RTrak@yahoogroups.com
Sent: Wednesday, March 27, 2013 11:10 PM
Subject: Re: [RTrak] RTrak-HAB doesn't lock

On Wed, Mar 27, 2013 at 7:49 AM, Andrew Rich <vk4tec@...> wrote:

When I get stuck I add a serial terminal to the equation to see what is going on

Yeah, that was on my to-do list this morning.

Last one was a flat GPS back up battery

There is no external backup battery on this unit; I don't know what's inside the can.

I know the GPS18 I cracked open has a tiny rechargeable coin cell in there; maybe this one has something similar.

-Jason
kg4wsv

No virus found in this message.
Checked by AVG - www.avg.com
Version: 2013.0.2904 / Virus Database: 2641/6198 - Release Date: 03/23/13

462. Re: RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 19:37:52 UTC
From: Jason R
Topic: 453 Message: 462

With the Compernicus GPS chipset, you should be seeing a cold lock of 30 seconds or less, with a good view of the sky. In a few instances I saw a little longer, but never more than a minute.

In fact, in our testing, we only have a small mag mount patch antenna sitting in the window sill. It can only "see" to the north and we still get a lock in about a minute or less most of the time. Of course, there are times when the antenna cannot see enough birds to the north, so it takes longer.

Jason, if you would like, please send them all to us to look at. Maybe there is something going on that is causing this, but it's hard to understand how all six units would be doing the same thing.

Are you getting the LED indication that the NMEA data is getting from the GPS to the OpenTracker controller? Stupid question, are the jumpers in place to connect the two together?

We are working on a new version of the RTrak-HAB that will use USB for configuration, eliminating the need to pull a jumper and isolate the GPS from the serial lines to program.

Jason Rausch - KE4NYV
RPC Electronics, LLC
www.rpc-electronics.com

--- In RTrak@yahoogroups.com, "Andrew Rich" <vk4tec@...> wrote:
>
> Yeah they take a bit to find out where they are -
>
> But 30 mins is probably a bit long
>
> - Andrew -
> ----- Original Message -----
> From: Jason KG4WSV
> To: RTrak@yahoogroups.com
> Sent: Wednesday, March 27, 2013 11:10 PM
> Subject: Re: [RTrak] RTrak-HAB doesn't lock
>
>
>
>
>
>
>
> On Wed, Mar 27, 2013 at 7:49 AM, Andrew Rich <vk4tec@...> wrote:
>
>

>
>
> When I get stuck I add a serial terminal to the equation to see what is going on
>
>
>
> Yeah, that was on my to-do list this morning.
>
> Last one was a flat GPS back up battery
>
>
> There is no external backup battery on this unit; I don't know what's inside the can.
>
>
> I know the GPS18 I cracked open has a tiny rechargeable coin cell in there; maybe this
one has something similar.
>
> -Jason
> kg4wsv
>
>
> No virus found in this message.
> Checked by AVG - www.avg.com
> Version: 2013.0.2904 / Virus Database: 2641/6198 - Release Date: 03/23/13
>

463. Re: RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 19:39:25 UTC
From: Jason R
Topic: 453 Message: 463

That should have been "Copernicus" GPS chipset.

--- In RTrak@yahoogroups.com, "Jason R" <lists@...> wrote:
>
> With the Compernicus GPS chipset, you should be seeing a cold lock of 30 seconds or less, with a good view of the sky. In a few instances I saw a little longer, but never more than a minute.
>
> In fact, in our testing, we only have a small mag mount patch antenna sitting in the window sill. It can only "see" to the north and we still get a lock in about a minute or less most of the time. Of course, there are times when the antenna cannot see enough birds to the north, so it takes longer.
>
> Jason, if you would like, please send them all to us to look at. Maybe there is something going on that is causing this, but it's hard to understand how all six units would be doing the same thing.
>
> Are you getting the LED indication that the NMEA data is getting from the GPS to the OpenTracker controller? Stupid question, are the jumpers in place to connect the two together?
>
> We are working on a new version of the RTrak-HAB that will use USB for configuration, eliminating the need to pull a jumper and isolate the GPS from the serial lines to program.
>
> Jason Rausch - KE4NYV
> RPC Electronics, LLC
> www.rpc-electronics.com
>
>
> --- In RTrak@yahoogroups.com, "Andrew Rich" <vk4tec@> wrote:
> >
> > Yeah they take a bit to find out where they are -
> >
> > But 30 mins is probably a bit long
> >
> > - Andrew -
> > ----- Original Message -----
> > From: Jason KG4WSV
> > To: RTrak@yahoogroups.com
> > Sent: Wednesday, March 27, 2013 11:10 PM
> > Subject: Re: [RTrak] RTrak-HAB doesn't lock
> >
> >
> >
> >

> >
> >
> >
> > On Wed, Mar 27, 2013 at 7:49 AM, Andrew Rich <vk4tec@> wrote:
> >
> >
> >
> >
> > When I get stuck I add a serial terminal to the equation to see what is going on
> >
> >
> >
> > Yeah, that was on my to-do list this morning.
> >
> > Last one was a flat GPS back up battery
> >
> >
> > There is no external backup battery on this unit; I don't know what's inside the can.
> >
> >
> > I know the GPS18 I cracked open has a tiny rechargeable coin cell in there; maybe this
one has something similar.
> >
> > -Jason
> > kg4wsv
> >
> >
> > No virus found in this message.
> > Checked by AVG - www.avg.com
> > Version: 2013.0.2904 / Virus Database: 2641/6198 - Release Date: 03/23/13
> >
>

464. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 20:08:28 UTC
From: Jason KG4WSV
Topic: 453 Message: 464

On Wed, Mar 27, 2013 at 8:58 AM, Andrew Rich <vk4tec@...>wrote:

> Vertically ?
>

yeah, you know, facing up?

like so:

http://www.eng.uah.edu/~jdw/aprs/rtrak-package.jpg

>
> What sort of gps antenna ?
>

Like I said before, the stock amplified patch antenna.

-Jason
kg4wsv

465. Re: [RTrak] Re: RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 20:11:48 UTC
From: Jason KG4WSV
Topic: 453 Message: 465

On Wed, Mar 27, 2013 at 2:37 PM, Jason R <lists@...> wrote:
> Maybe there is something going on that is causing this, but it's hard to understand how all six units would be doing the same thing.

4 units.

> Are you getting the LED indication that the NMEA data is getting from the GPS to the OpenTracker controller?

I didn't see any description of the blink patterns (or a schematic) in
the manual. The blink pattern looks ike 3 blinks, with the delay
between the second and third a bit longer than the delay between the
first and second.,

> Stupid question, are the jumpers in place to connect the two together?

yes. one of them worked (briefly) when i removed the jumper and
replaced it while the unit was powered up.

-Jason
kg4wsv

466. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 20:18:25 UTC
From: Patrick Wood
Topic: 453 Message: 466

That may be your issue... Up to those antennas should be horizontal to the sky..

p

On Wed, Mar 27, 2013 at 4:08 PM, Jason KG4WSV <kg4wsv@...> wrote:

>
>
>
> On Wed, Mar 27, 2013 at 8:58 AM, Andrew Rich <vk4tec@...>wrote:
>
>> Vertically ?
>>
>
> yeah, you know, facing up?
>
> like so:
>
> http://www.eng.uah.edu/~jdw/aprs/rtrak-package.jpg
>
>
>>
>> What sort of gps antenna ?
>>
>
>
> Like I said before, the stock amplified patch antenna.
>
> -Jason
> kg4wsv
>
>
>

467. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2013-03-27 22:07:52 UTC
From: Jason KG4WSV
Topic: 453 Message: 467

On Wed, Mar 27, 2013 at 3:18 PM, Patrick Wood <winston@...> wrote:

>
>
> That may be your issue... Up to those antennas should be horizontal to
> the sky
>

The antenna IS facing the sky. I've already been through a flight with these units with unreliable operation because they were facing the horizon.

This ain't my first rodeo; these trackers will go on balloons that'll push the total number of flights I've helped with up to about 75 or 80 (I've lost count).

At this point I'm looking at things like does the expanded PVC mounting material (the black stuff in the picture) contains enough carbin to cause RF propagaiton problems (shileding, multiapth, etc)? Do the GPS units have some systemic problem (bad firmware, can't handle sitting on a shelf for 6 months, etc)?

I don't have antennas or a 3.3V RS232 interface to check things like that; I'll probably send them to Jason and let him see what he can see.

-Jason
kg4wsv

468. rtrak-hab schematic?

Yahoo group: RTrak
Date: 2014-03-30 16:37:17 UTC
From: Jason KG4WSV
Topic: 468 Message: 468

Is there a schematic available for the rtrak-HAB?

I need to see if I can easily bypass the onboard GPS and wire in one that will work.

-Jason
kg4wsv

469. RE: [RTrak] rtrak-hab schematic?

Yahoo group: RTrak
Date: 2014-03-30 17:20:50 UTC
From: Barry Sloan
Topic: 468 Message: 469

Just added one on
http://bear.sbszoo.com/construction/traker/RTrak/RTrak-HABv1.10.htm for you.

Barry
VE6SBS

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of
Jason KG4WSV
Sent: Sunday, March 30, 2014 10:37 AM
To: rtrak@yahoogroups.com
Subject: [RTrak] rtrak-hab schematic?

Is there a schematic available for the rtrak-HAB?

I need to see if I can easily bypass the onboard GPS and wire in one
that will work.

-Jason
kg4wsv

470. Re: [RTrak] rtrak-hab schematic?

Yahoo group: RTrak
Date: 2014-03-30 17:37:25 UTC
From: Jason KG4WSV
Topic: 468 Message: 470

On Sun, Mar 30, 2014 at 12:20 PM, Barry Sloan <bs@...> wrote:

>
>
> Just added one on
> http://bear.sbszoo.com/construction/traker/RTrak/RTrak-HABv1.10.htm for
> you.
>

Thanks!

looks like I can add a header across both PROG and GPSP headers and wire in
a functional GPS.

Still powering the useless trimble, but oh well. If this works out I'll
desolder them or cut a trace or something.

-Jason
kg4wsv

471. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2014-03-30 20:27:11 UTC
From: Jason KG4WSV
Topic: 453 Message: 471

> Got some RTrak-HAB models that worked and have been on the shelf for
> several months. I built new packaging (to allow for the very position
> sensitive GPS antenna) and the things won't get lock. I've had them
> outside with the GPS antenna facing at most 10 degrees or so off
> vertical, and only one of the 4 has locked, and that one took about 30
> or 45 minutes.

Resurecting a year-old thread with a followup. I haven't had time to mess with them, but this time when I got the unit out of storage the same thing happened, only worse.

I wired in external GPS receivers (Garmin GPS18) and all the GPS problems went away.

Problem is with the GPS, and it's systemic (4 units with same problem). Still no idea if it's the GPS, the supplied amplified patch antenna, or what. I just know the device is usable with an external GPS on it.

I guess I'll desolder something so the onboard GPS isn't consuming power, and go with this config until they are damaged or lost.

-Jason
kg4wsv

472. RE: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2014-03-30 22:34:31 UTC
From: Barry Sloan
Topic: 453 Message: 472

Check the antennas!
I have 5 or 6 units plus there's another dozen I've been involved with that others own and the only problem has been the antenna feed lines and a broken cable shield where the shield is soldered to the antenna is almost always the problem. I hate RG-174 cable like what's used on the antennas as the dielectric insulation melts easily damaging the cable when it's soldered and always use RG-178 teflon cable instead. The shield breaks just as easily but I don't have to worry about destroying the cable when soldering it at least. To cure the shield breakage problem I slip a short piece of copper tubing about 1/4" long over the cable where it's soldered to the antenna and that's soldered along with the shield to the antenna's metal cover. The tubing extends where the cable is able to flex away from where the braid is soldered and has solved the problem completely. It's a bit of work of course as to replace the cable the metal cover has to be removed to unsolder & solder the cable center conductor. Most antennas where damaged from use, but several actually arrived not working. The shields were fine on those, but I suspect a tiny fragment of the shield was shorting out the signal in the SMA connector somehow. Doesn't say much for the quality of workmanship but there's been no more antenna problems since replacing the feed lines. The other solution is to simply buy better constructed antennas of course.

Barry
VE6SBS

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of Jason KG4WSV
Sent: Sunday, March 30, 2014 2:27 PM
To: RTrak@yahoogroups.com
Subject: Re: [RTrak] RTrak-HAB doesn't lock

> Got some RTrak-HAB models that worked and have been on the shelf for
> several months. I built new packaging (to allow for the very position
> sensitive GPS antenna) and the things won't get lock. I've had them
> outside with the GPS antenna facing at most 10 degrees or so off
> vertical, and only one of the 4 has locked, and that one took about 30
> or 45 minutes.

Resurecting a year-old thread with a followup. I haven't had time to mess with them, but this time when I got the unit out of storage the same thing happened, only worse.

I wired in external GPS receivers (Garmin GPS18) and all the GPS problems went away.

Problem is with the GPS, and it's systemic (4 units with same problem). Still no idea if it's the GPS, the supplied amplified patch

antenna, or what. I just know the device is usable with an external GPS on it.

I guess I'll desolder something so the onboard GPS isn't consuming power, and go with this config until they are damaged or lost.

-Jason
kg4wsv

473. Re: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2014-03-30 23:49:50 UTC
From: Jason KG4WSV
Topic: 453 Message: 473

> On Mar 30, 2014, at 5:34 PM, "Barry Sloan" <bs@...> wrote:
>
> Check the antennas!

Now you tell me. :)

It did occur to me, but I dont have a way to test. I do have some RG174 with SMAs already on it for this project (2m antenna leads) that I can use to replace what's on there.

> hate RG-174 cable like what’s used on the antennas as the dielectric insulation melts easily damaging the cable when it’s soldered and always use RG-178 teflon cable instead.

I actually have some Teflon 178 (bought it by mistake) but don't have any connectors or an appropriate crimp tool.

I also have a candidate - the tape supplied on those antennas is top notch, and one of the cans opened a bit when I removed it.

> The other solution is to simply buy better constructed antennas of course.

Got any suggestions? I have no desire to ditch the rtrak or to spend another $80 on a garmin gps18 to make it work.

-j

474. RE: [RTrak] RTrak-HAB doesn't lock

Yahoo group: RTrak
Date: 2014-03-31 17:24:45 UTC
From: Barry Sloan
Topic: 453 Message: 474

I’ve compared about a dozen different antennas and the one supplied with the RTrak is as good as any in regard to how well it receives and only problem has been a couple with a problem at the SMA connector end of the cable and the braid failing at the other end after a bit of use. The braid problem would be about the same with any of similar construction and to avoid the problem I would get a puck style one, like https://www.sparkfun.com/products/464, as the enclosure provides the needed strain relief. The problem with that however is not only the extra weight of the enclosure, but the long feed line and its weight and why I have removed the case and shortened the feed line on all such antennas I purchased initially while looking for the best one to buy. Since you don’t have a crimper for SMA connectors I would simply get another RTrack antenna (https://www.sparkfun.com/products/177). Like I said, it performs as good as any and is what I have been buying when needing another antenna and just limit the amount of flexing that’s allowed where the coax is soldered to the antenna either by how it’s mounted, like attaching the feed line a short distance away from the antenna to whatever the antenna is attached to using a tie wrap, silicone adhesive or whatever.

As for opening one of the cans a bit when removing the 3M tape – Ouch and, yes, 3M does make excellent tapes. A much safer way is to use solder wick to remove as much solder as possible and then to free the can from the circuit board simply lift on the can gently at each spot that had been soldered while reheating the can a bit.

And with RG-178 (and other teflon type cable resistant to soldering temperatures) you don’t necessarily need a crimper to attach a connector. I have several dies for my crimper that work in most cases, but bought some SMA connectors on eBay for a good price that require an odd sized crimp die so rather than using the supplied crimp ring to hold the braided shield in place where it slips over the connector body I simply wrapped fine gauge wire (wire wrap wire from which I had stripped the insulation) around the braid to hold it in place as tightly as possible and then soldered it to the connector body. After slipping some heat shrink over the area it’s hard to tell the difference from using a crimp ring.

Another SMA – teflon cable option is to buy a ready made cable to use, like

http://www.dx.com/p/sma-j-female-to-female-adapter-rg316-connection-cable-golden-black-deep-yellow-15cm-191157#.Uzmgc_lkTfQ

In this case, cut one connector off for a 6” cable or in half for two 3” cables. There are countless cables like this of various lengths available on eBay, DX and the like and many times for less than the cost of the connector and cable. Teflon cable isn’t easy to find for a decent price here in Canada so I often buy and use such cables even though I have a fair stock of connectors and a crimper to use.

Barry
VE6SBS

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of Jason KG4WSV
Sent: Sunday, March 30, 2014 5:50 PM
To: RTrak@yahoogroups.com

Subject: Re: [RTrak] RTrak-HAB doesn't lock

> On Mar 30, 2014, at 5:34 PM, "Barry Sloan" <bs@...> wrote:
>
> Check the antennas!

Now you tell me. :)

It did occur to me, but I dont have a way to test. I do have some RG174 with SMAs already on it for this project (2m antenna leads) that I can use to replace what's on there.

> hate RG-174 cable like what’s used on the antennas as the dielectric insulation melts easily damaging the cable when it’s soldered and always use RG-178 teflon cable instead.

I actually have some Teflon 178 (bought it by mistake) but don't have any connectors or an appropriate crimp tool.

I also have a candidate - the tape supplied on those antennas is top notch, and one of the cans opened a bit when I removed it.

> The other solution is to simply buy better constructed antennas of course.

Got any suggestions? I have no desire to ditch the rtrak or to spend another $80 on a garmin gps18 to make it work.

-j

475. rtrak-hab onboard power

Yahoo group: RTrak
Date: 2014-04-11 14:32:37 UTC
From: Jason KG4WSV
Topic: 475 Message: 475

Can the rtrak-HAB's 5V regulator supply an additional 90mA (for a Garmin GPS18x)?

Are there any ramifications to removing the 3.3V regulator to avoid wasting power on the onboard Trimble? Or is there ran easier way to disable it such that it doesn't consume power?

thanks,
Jason
kg4wsv

476. RE: [RTrak] rtrak-hab onboard power

Yahoo group: RTrak
Date: 2014-04-11 17:00:01 UTC
From: Barry Sloan
Topic: 475 Message: 476

I believe 3.3V is only used for the GPS so should be ok to remove the reg. (which is probably the easiest way to un-power the GPS without cutting a trace).
5V regulator is good for 1A so lots of room left for 90mA depending on power source voltage of course. If too high more heat sinking may be required, so I would keep an eye (or finger) on the reg. temperature for the first few minutes to ensure it stays cool.

Guess you weren't able to solve your antenna issues or it was a different more serious problem as I've found the Copernicus GPS as good as any and would hate to have to use something different that requires 3x the 30mA the Copernicus requires.

Barry
VE6SBS

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of Jason KG4WSV
Sent: Friday, April 11, 2014 8:33 AM
To: RTrak@yahoogroups.com
Subject: [RTrak] rtrak-hab onboard power

Can the rtrak-HAB's 5V regulator supply an additional 90mA (for a Garmin GPS18x)?

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thanks,
Jason
kg4wsv

477. Re: [RTrak] rtrak-hab onboard power

Yahoo group: RTrak
Date: 2014-04-11 18:33:48 UTC
From: Jason KG4WSV
Topic: 475 Message: 477

On Fri, Apr 11, 2014 at 12:00 PM, Barry Sloan <bs@...> wrote:
>
> I believe 3.3V is only used for the GPS so should be ok to remove the reg. (which is probably the easiest way to un-power the GPS without cutting a trace).

Removing the Copernicus works, too. I wondered if the copernicus used an internal rechargeable battery (for battery-backed RAM storage, e.g. almanac data) that had gone bad and was causing my problems, so I removed one and opened it up. No battery.

> Guess you weren't able to solve your antenna issues

Nope. I thought you were right; the first unit I inspected had very rough looking coax at the antenna can. I opened it up, installed a new, longer piece of RG174 with a factory crimped SMA. Took it outside and it locked within a few minutes, as expected.

Thinking this was the solution to the problem, I spent the next few hours doing the same to the other units, and remounting the antennas and adding hot glue to strain relieve the coax. Took all 4 units outside - and nothing worked, not even the one that had worked a few hours previously.

I did run a test with all 4 units, and they work as expected if I plug a Garmin GPS18 into the GPS connector. I just rebuilt one by removing the copernicus and installing a cable for the GPS18. Hopefully there's enough heat sink provided by the PCB so that the extra 90mA won't kill the regulator.

> I've found the Copernicus GPS as good as any

This is my only experience with it, and based on that I think it's junk. These things worked for one flight (or would have worked, if someone hadn't insisted on rigging them upside down, and I can't blame the GPS for not locking when it's looking at dirt) and have never worked since.

-Jason
kg4wsv

478. RE: [RTrak] rtrak-hab onboard power

Yahoo group: RTrak
Date: 2014-04-11 19:02:28 UTC
From: Barry Sloan
Topic: 475 Message: 478

Copernicus has flash memory for storage.

Barry
VE6SBS

From: RTrak@yahoogroups.com [mailto:RTrak@yahoogroups.com] On Behalf Of Jason KG4WSV
Sent: Friday, April 11, 2014 12:34 PM
To: RTrak@yahoogroups.com
Subject: Re: [RTrak] rtrak-hab onboard power

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>
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